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FLOODPLAIN MANAGEMENT GUIDEBOOK FOR LOCAL ADMINISTRATORS

Montana Department of Natural Resources and Conservation
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September 1988

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Table of Contents

Montana Floodplain Managers Directory .... Inside Front Cover

Acknowledgments ii

Introduction 1
  Why We Need Floodplain Management 1
  Purpose of the Guidebook 1
  Guidebook Organization and Contents 1
  Definitions 2

Chapter I: National Flood Insurance Program 5
  Goals and Objectives 5
  Program Overview and Community Responsibility 5
    Emergency Phase 5
    Special Conversions 6
    Regular Phase 6
    Biennial Report 6
    Community Assessment Visit (CAV) 7

Chapter II: Montana Floodplain and Floodway Management Act 9
  General Provisions 9
  Floodplain Management Section 9
  Floodplain Management Standards 10
  Community Responsibilities 11
  Enforcement 11

Chapter III: Floodplain Ordinance Standards 13
  State and NFIP Construction Standards 13
  General Standards 13
    Anchoring 13
    Construction Materials and Methods 13
    Utilities 15
    Subdivisions 16
    Encroachments 16
  Specific Standards—NFIP and State Standards 16
    Residential Structures 16
    Nonresidential Structures 16
    Manufactured Homes 16
    Floodways 18

Chapter IV: Administrative Procedures 19
  Establishing a Floodlain Development Permit System 19
    When a Permit is Required 19
    The Permit Application 19
    Reviewing the Permit Application 20
  Special Considerations on Permit Reviews 21
    Floodways 21
  Acting on the Permit Application 26
    Applicant's Options 26
  Variances 27
    Administrative Responsibilities 27
  Enforcement 27
    Violations 28
    Penalties for Noncompliance with NFIP 28
  Record Keeping 28
  Local Floodplain Administrator 29
    Administration of the Floodplain Permit System 29
    Watercourse Alteration Notification 29
    Interpretation of Map Boundaries 29
    Submission of Information 30
  Denial of Flood Insurance for Buildings in Violation of Floodplain Standards 30
  Map Amendments and Revisions 30

Chapter V: Planning to Reduce Flood Damage 33
  Structural Measures 33
    Dams and Reservoirs 33
    Levees and Floodwalls 33
    Channel Improvements 33
    Watershed Treatment 33
  Nonstructural Measures 33
    Zoning 34
    Building Codes/Subdivision Regulations 34
    Stormwater Management 34
    Acquisition and Relocation 34
    Development Policy 34
    Tax Incentives 34
    Information and Education 34
    Flood Forecasting and Warning 35
    Emergency Preparedness 35
    Post-flood Recovery Opportunities 35

Chapter VI: Floodplain Laws, Rules, and Regulations 37
  Montana Floodplain and Floodway Management Act 39
  Administrative Rules of Montana 53
  National Flood Insurance Program Regulations .... Inside Back Cover

Chapter VII: Montana Model Floodplain Ordinance 75

Appendixes

A. Floodplain Development Permit Form 115
B. Elevation Certificate 117
C. Floodproofing Certificate 119
D. Permit Guide for Water-related Projects 121
E. Agencies Regulating Water-related Projects 123
F. Laws and Regulations Governing Water-related Projects 125
G. The Floodway 127
G-1. Why a Floodway 128
G-2. Determining A Floodway 129
H. How to Read a Floodway Map 131
I. How to Read a Flood Insurance Rate Map 133
J. Reading a Flood Profile 135
K. Flood Insurance Information 137
L. What to do Before, During, and After a Flood 141

Figures

1. 100-year Floodplain 4
2. Manufactured Home Anchoring Requirements 14
3. Floodproofing Utilities 15
4. Determining Lowest Floor 17
5. Cross Section View of a Floodplain 18
6. Allowable Floodway Uses 22
7. Floodproofing of Commercial or Industrial Structures 23
8. Floodway Fringe: Residential Structures 24
9. Letter of Map Revision (LOMR) Examples 31

INTRODUCTION

Why We Need Floodplain Management

Flooding is a natural phenomenon. Periodically, rain, melting snow, or ice jams cause streams to rise and overflow their banks onto surrounding lands. These lands, known as floodplains, receive floodwaters and dispense their energy. Settlers were attracted to floodplains because of their fertile soils and the water available for domestic use, irrigation, and transportation. In addition, the beauty of waterfront property has enticed many people to build in these flood-prone areas. Unfortunately, such insistence on residing in floodplains has resulted in continued, and oftentimes severe social and economic loss.

The traditional response to flooding has focused on protecting existing development through structural works such as dams, diversions, and levees, and on providing emergency relief and recovery assistance to flood victims. Both approaches have been extremely expensive and ineffective in protecting lives and property. Despite tremendous expenditures on flood control projects, flood damages continually rise.

Congress created the National Flood Insurance Program (NFIP) in 1968. This legislation provided affordable flood insurance to owners of flood-prone property and gave an incentive for communities to adopt floodplain management ordinances. The Montana legislature passed the Floodway Management and Regulation Act in 1971 which enabled counties to adopt flood loss reduction standards and participate in the National Flood Insurance Program.

With fewer federal dollars available, today's emphasis is on nonstructural measures to mitigate flood hazards. Rather than attempting to control rivers, the purpose of floodplain management is to guide development in a manner consistent with nature's needs to convey flood waters.

Purpose of the Guidebook

This guidebook was prepared to help people in Montana communities understand the National Flood Insurance Program and the Montana Floodplain and Floodway Management Act. Primarily, though, it is a guidebook for you, the local official, who must comply with the state law and the requirements of the NFIP.

The guidebook is designed to help you in your job by providing detailed information on both the federal and state laws and by offering suggestions for drafting and administering floodplain regulations. These topics are covered in five chapters.

Guidebook Organization and Contents

Chapter I describes the National Flood Insurance Program (NFIP). It lists goals and objectives, explains the Emergency and Regular Phases of the Program, and explains a community's responsibilities when participating in the NFIP.

Chapter II explains the Montana Floodplain and Floodway Management Act and the Administrative Rules for its implementation.

Chapter III describes a model ordinance and the construction standards required by the state's Floodplain and Floodway Management Act.

Chapter IV explains how a community should administer its floodplain ordinance and keep records.

Chapter V describes other items a community should consider in implementing a floodplain management program, such as disaster preparedness plans and structural flood control works.

Chapter VI contains the state floodplain management law and the administrative rules pertaining to the floodplain law.

Chapter VII consists of the state model floodplain ordinance.

Definitions

Each of these chapters contains terms commonly used in both the state and national laws. Although these words or phrases are generally explained within the text, they are also given here to provide a useful reference.

This model is for communities to use as a guide for writing their local floodplain management ordinances.

A-Zone - Found on both Flood Hazard Boundary Maps (FHBMs) and Flood Insurance Rate Maps (FIRMs), A-Zones show the 100-year floodplain and are areas which would be flooded by a base flood. These areas may be numbered as AE, AO, AH, or A1 through A30, or they may be unnumbered. Numbered A-Zones indicate a particular area's risk of flooding.

Alteration - Any change or addition to a structure that increases its external dimensions.

Appeal - A request for a review of the floodplain administrator's interpretation of any provision of these regulations, or a request for a variance.

Artificial Obstruction/Development - Any obstruction which is not natural, including any dam, diversion, wall, riprap, embankment, levee, dike, pile, abutment, projection, revetment, excavation, channel rectification, bridge, conduit, culvert, building, refuse, automobile body, fill, or other analogous structure or matter in, along, across, or projecting into any 100-year floodplain that may impede, retard, or alter the pattern of flow of water, either in itself or by catching or collecting debris carried by the water, or that is placed where the natural flow of water would carry said obstruction downstream to the damage or detriment of either life or property.

Base Flood - The base flood for purposes of floodplain management is the 100-year flood and is a measure of flood magnitude based on probability. The base flood has a 1 percent chance of occurring or being exceeded in any given year.

Base Flood Elevation (BFE) - The level of floodwater reached during the base flood is referred to as the base flood elevation or 100-year flood elevation. The elevation of the water surface is referenced to as mean sea level (MSL). In other words, a base flood elevation of 3898 FT or 3898 MSL refers to a water surface elevation of 3898 feet above MSL.

Channelization Project - The excavation and/or construction of an artificial channel for the purpose of diverting the entire flow of a stream from its established course.

Development - Refers to any man-made change to real estate including, but not limited to, buildings or other structures, filling, mining, dredging, grading, or excavation.

Encroachment - Development of floodplains results in the restriction of natural overflow areas that are needed by streams during flooding conditions. Each development encroaches on the natural conveyance area of the floodplain and may increase the base flood elevation and velocity of floodwaters. Development of floodplains is consequently entitled "encroachment."

Establish - To construct, place, insert, or excavate.

Federal Emergency Management Agency (FEMA) - The federal agency that administers the National Flood Insurance Program.

Flood or Flooding - A general and temporary condition of partial or complete inundation of normally dry land areas from:

(1) The overflow of waters, or
(2) The unusual and rapid accumulation of runoff of surface waters from any source.

Flood Boundary and Floodway Map - A map that may be included with the Flood Insurance Study and the Flood Insurance Rate Map. It identifies the floodway and, along with the study and the FIRM, provides the technical basis for floodplain management regulations.

Flood Frequency - This term refers to a flood probability of a certain magnitude occurring in a given year. For example, a 100-year flood has the probability of reaching a certain elevation once in a hundred years, or a 1 percent chance of occurring in any given year. It must be noted that flood frequency is a probability. Thus, it is possible for a 100-year flood to occur three years in a row, or not at all for 500 years.

Flood Hazard Boundary Map (FHBM) - Usually the first map a community receives from the Federal Emergency Management Agency. It designates areas of special flood hazard within a given community and forms the basis for both regulation and insurance for communities in the preliminary Emergency Phase of the National Flood Insurance Program (NFIP).

Flood Insurance Rate Map (FIRM) - The map on which the Federal Insurance Administration has delineated both the 100-year floodplains and the risk premium zones. This map forms the basis for both regulation and insurance for communities in the Regular Phase of the National Flood Insurance Program.

Flood Insurance Study - The report in which the Federal Emergency Management Agency provides flood profiles, as well as the Flood Boundary/Floodway Maps, water surface elevations, and the Flood Insurance Rate Map. After this study is completed, communities are required to participate in the Regular Phase of the National Flood Insurance Program.

Floodplain - The areas adjoining a stream which would be covered by flood water.

Floodway - The channel of a stream and the adjacent overbank areas that must be reserved in order to discharge a base flood without cumulatively increasing the water surface elevation more than one-half (1/2) foot.

Floodway Fringe - That area in the 100-year floodplain outside of the floodway is called the flood fringe. It is the area of the floodplain that **can be** developed without causing a substantial increase (more than one-half foot) in the 100-year flood elevation.

Hydraulics - The science dealing with transmission of water.

Hydrology - The science dealing with the distribution and circulation of water on the surface of the land.

Lowest Floor - The lowest floor that is usable, or potentially usable, for living purposes, storage, or recreation, including a basement.

Manufactured Home - A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes, the term "manufactured home" also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days.

New Construction - Structures for which construction, substantial improvement, or alteration begins on or after the effective date of local regulations.

Nonconforming Use - A land use not in accordance with local regulations.

Official Floodplain Maps - The Flood Insurance Rate Maps and Flood Boundary/Floodway Maps provided by the Federal Emergency Management Agencys or Special Hydraulic Floodway Maps provided by the U.S. Corps of Engineers, or Special Flood Hazard Study Maps provided by the Soil Conservation Service.

Permit Issuing Authority - A local floodplain administrator appointed by the city or town council, or the city or county commission.

Riprap - Stone, rocks, concrete blocks, or similar material placed along the banks or bed of a stream for the purpose of alleviating erosion.

Special Flood Hazard Area (SFHA) - The land in the floodplain within the community subject to a one percent or greater chance of inundation in any given year; the 100-year floodplain.

Start of Construction - The first placement of permanent structure (other than a manufactured home) on a site, such as pouring slabs or footings, or any work beyond excavation. Permanent construction does **not** include land preparation, such as clearing, grading, and filling; installation of streets and/or walkways; excavation for a basement, footings, piers, foundation, or temporary forms; or installation of accessory buildings, such as garages or sheds not occupied as dwellings or as part of the main structure. For a structure (other than a manufactured home) without a basement or poured footings, the start of construction includes the first permanent framing or assembly of the structure or any part thereof on its piling or foundation. For manufactured homes not within a manufactured home park or manufactured home subdivision, start of construction is the date of completion of facilities for servicing the site, including, at a minimum, the construction of streets, either final site grading or the pouring of concrete pads, and the installation of utilities.

Structure - A walled and roofed building, a manufactured home, or a gas or liquid storage tank, that is principally above ground.

Substantial Improvement - Any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either before the improvement or repair is started, or, if the structure has been damaged and is being restored, 50 percent of its value before the damage occurred.

For the purposes of this definition, "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences. A substantial improvement differs from an alteration of a structure because it does not affect the structure's external dimensions. The term does not, however, include either:

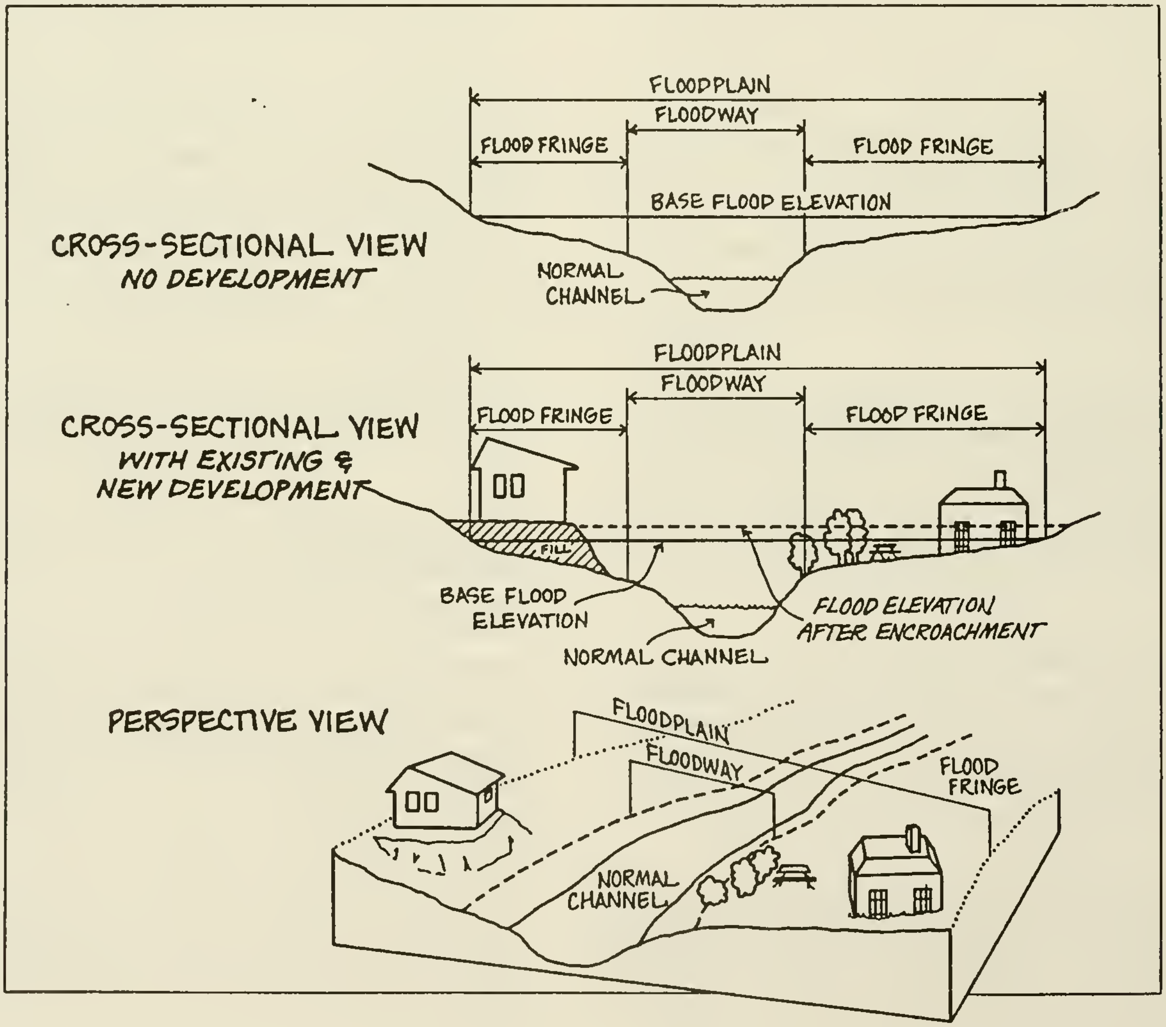
1. any project for improving a structure to comply with existing state or local health, sanitary, or safety code specifications which are necessary solely to assure safe living conditions, or
2. any alteration of a structure listed on the National Register of Historic Places or a state inventory of historic places.

Suitable Fill – Fill material that is stable, compacted, well graded, pervious, generally unaffected by water and frost, devoid of trash or similar foreign matter, devoid of tree stumps or other organic material, and fit to support the intended use or permanent structure.

Variance – A release from the Floodplain Management Regulations that permits otherwise prohibited construction.

100-year Floodplain – The area inundated by the 1 percent chance flood constitutes the 100-year floodplain of a river, creek, ditch, lake, or other source of flooding. This floodplain is also referred to as the Special Flood Hazard Area (SFHA). It is the area of a community where development must be regulated through a local ordinance conforming to the standards of the NFIP and the State Floodplain and Floodway Management Act. Illustrations of the 100-year floodplain can be seen in Figure 1.

FIGURE 1
100-YEAR FLOODPLAIN



CHAPTER I:
NATIONAL FLOOD INSURANCE PROGRAM

Goals and Objectives

The National Flood Insurance Program was created by Congress in 1968, offering nonstructural approaches to reduce flood damage. The program's purpose is to make flood insurance available to property owners in flood-prone communities in return for the community agreeing to guide future floodplain development. The NFIP requires local governments to adopt and enforce floodplain regulations before local insurance can be obtained in their community. The local regulations must meet the minimum NFIP requirements established by the federal government.

Congress created the program to address the problem of increasing annual flood losses. For decades the federal response to flood disasters was limited to building flood control works and to providing disaster relief to flood victims. The NFIP works on the basis of an agreement between the federal government and flood-prone communities that choose to participate in the program.

Program Overview and Community Responsibility

The National Flood Insurance Program provides flood insurance to towns, cities, and counties that **adopt** and **enforce** a floodplain ordinance that meets certain minimum requirements.

The extent of these minimum requirements will depend on the amount of flood hazard data the Federal Emergency Management Agency gives the community. When local governments first decide to participate in the Program, available data are usually limited and FEMA requires less stringent ordinances. Insurance coverage is correspondingly less complete. This is called the Emergency Phase of the Program.

After detailed flood insurance studies have been completed, the community must enact more stringent regulations. At this time, the full limits of flood insurance coverage become available, and the community becomes part of the Regular Phase of the Program. These two phases of the NFIP, the Emergency and the Regular Phases, are described in more detail below. The "Special Conversion" process of moving from the emergency to the regular phase is also described.

Emergency Phase

The Emergency Phase is the temporary phase of the NFIP and is scheduled to end by September 1991. In this phase, FEMA provides the community with a Flood Hazard Boundary Map that identifies those general areas in the community that may be flooded in the event of the 100-year flood (base flood). These are marked as A-Zones. The community is then required to ensure that new developments in the A-Zones will be protected from the 100-year flood and will not increase the flood hazard to other areas.

A-Zones are determined by studying aerial photographs of past floods or U.S. Geological Survey topographic maps. The local floodplain administrator may interpret the floodplain boundaries using information acquired in the field if there are apparent discrepancies between actual field conditions and the mapping.

Specific actions which must be enforced in these A-Zones include requirements for: 1) proper anchoring of structures; 2) the use of construction methods and materials that minimize flood damage; 3) adequate drainage for new subdivisions; and 4) the location and design of new or replacement utility systems to prevent flood damage.

In addition, participation in the Emergency Phase also requires that a community initiates a permit system for all new construction or development and uses it to assure that these sites will be reasonably free from flooding.

It should be noted that in certain cases, FEMA has not identified flood hazard areas, but the local government has indicated that flood hazards exist by participating in the NFIP.

In either case, the local government must adopt and enforce an ordinance establishing a development permit system that requires new construction to be safe from flooding if it is located in the flood-prone area. Because FEMA did not provide the community detailed flood hazard information in the Emergency Phase of the NFIP, the local government is obligated to use any available information source to implement its ordinance.

Special Conversions

It is possible for communities to participate in the Regular Phase of the NFIP without having a detailed Flood Insurance Study performed. FEMA calls this process a "Special Conversion" and it occurs when FEMA determines there is minimal flood hazard in the community and a detailed Flood Insurance Study is not necessary.

Communities also may be converted with a map that shows no flood hazard identified. When a Flood Hazard Boundary Map exists for the community, it will be converted into a Flood Insurance Rate Map. This conversion process evaluates flood hazards, people affected, existing floodplain development, and potential future development potential. The community's floodplain ordinance will be updated to meet existing NFIP standards.

Your community may have been involved in this special conversion process. Advantages of converting to the Regular Phase of the NFIP are:

- retaining availability of flood insurance;
- increased flood insurance coverage for buildings and contents; and
- an updated floodplain ordinance for improved management of flood-prone areas.

Regular Phase

A community is required to move from the Emergency Phase to the Regular Phase of the NFIP when the Federal Emergency Management Agency completes a detailed Flood Insurance Study, which defines the community's flood hazards based on hydraulic and hydrologic analyses. This study defines the limit of the floodplain and divides it into zones reflecting the risk of flooding. The zones, along with base flood elevations, are shown on a Flood Insurance Rate Map (FIRM). The Regular Phase of the NFIP allows residents to obtain increased amounts of flood insurance.

The zones that can appear on a FIRM include a variety of A-Zones, B-Zones, and C-Zones. A-1 through A-30 and AE Zones indicate the 100-year floodplain. AO or AH Zones are areas of shallow flooding (one foot to three feet in depth) usually resulting from sheet flooding or ponding. B-Zones appearing on the FIRM are those areas subject to flooding between the limits of the 100-year and 500-year flood. They also can be areas where the average depth of the 100-year flood is less than one foot or the contributing drainage area is less than one square mile. B-Zones also include areas where levees provide protection from the base flood. C-Zones are areas subject to flooding beyond the 500-year event. B- and C-Zones are shown for information only; development there does not have to conform to NFIP or state standards.

The Federal Emergency Management Agency sometimes provides a community with enough detailed information to designate a regulatory floodway. This information is displayed on a map called the Flood Boundary and Floodway Map. Data found on this map are referenced in the Flood Insurance Study.

Communities participating in the Regular Phase of the NFIP must adopt and enforce an ordinance which requires new residential structures in flood hazard areas to have the lowest floor (including the basement) elevated above the base flood elevation.[1] Where a floodway has been established the ordinance must also limit development to uses, such as agriculture or open space, that will not cause an increase in flood heights.

Biennial Reports

Communities participating in the NFIP are requested to return a Biennial Report on floodplain activities to FEMA. Every two years, FEMA sends a form to the community floodplain administrators that should be completed and returned within 30 days. It requests information concerning any changes to the community's flood hazard area, development activities that have taken place in the floodplain, and verification of the number of floodplain residents and structures.

Filling It Out

Any information that is not accurate should be corrected on the form. There are two sections on the Biennial Report.

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[1] Montana law, as will be seen in the following chapter, requires these structures to be elevated at least two feet above the Base Flood Elevation.

Questions in Section I ask about the changes and activities in the floodplain. If there have been changes in the community's territorial limits, be sure to mark "Yes" to Question A and include a copy of the new map. Regarding man-made changes in Question C, the replacement of culverts, and bridges, physical changes which affect the characteristics of flooding, and construction of dikes or drainage projects are examples of significant man-made changes. Individual or localized projects such as resurfacing parking lots, building small retention basins, or minor drainage improvements need not be mentioned. Question D provides the opportunity to indicate whether or not the community is in need of help in its floodplain management program.

Section II asks the number of permits granted in the community's flood hazard areas only in the last year. Communities need to report the number of variances (if any) granted to the floodplain ordinance.

The last portion of the report asks for the best estimate of the population and the number of 1-4 family structures and other structures (schools, churches, businesses, public buildings) located in the entire community. It then asks for estimates in the community's flood hazard areas only. Changes should be made to correct figures that are no longer accurate.

Finally, the report must be signed by the person completing the form and returned to FEMA at the address provided. A copy for the community's files should be retained for future reference.

The Biennial Report indicates to FEMA the degree of development pressure on the floodplain. Variances issued in the floodplain are of particular interest to FEMA.

Community Assessment Visit (CAV)

FEMA conducts CAVs in Regular Phase communities to evaluate how well they are complying with the regulations of the NFIP. The primary purpose of CAVs is to identify and help communities solve floodplain management problems.

A CAV is the foundation of FEMA's Community Compliance Program which outlines procedures for enforcement activities by FEMA under the NFIP. CAVs monitor community floodplain management efforts necessary as a condition of community participation in the NFIP. A CAV is the most comprehensive form of FEMA community contact, and includes a floodplain tour and inspection of floodplain development permit records. Biennial Report information is verified at this time and the community's floodplain management program evaluated. Any shortcoming FEMA sees in the community's floodplain management program is identified. Enforcement action can be initiated by FEMA for community noncompliance with its own floodplain ordinance based upon NFIP regulations. When noncompliance is cited, FEMA expects the community to identify and take actions necessary to remedy these infractions. Penalties for noncompliance are outlined under "Enforcement" in Chapter 4.

CHAPTER II:

MONTANA FLOODPLAIN AND FLOODWAY MANAGEMENT ACT

The Montana Floodplain and Floodway Management Act was passed by the Montana Legislature in 1971 and amended and revised in 1973. In approving the Act, the legislature recognized the need for a united effort between local and state governments to combat recurrent flood damages. It also provided for coordination between state and federal programs-compliance with the Act makes local communities eligible for National Flood Insurance. A copy of the complete text of the Act is in Chapter VI.

General Provisions

The Floodplain and Floodway Management Act has four major parts. Part I establishes the need for management and regulation of flood-prone lands in order to reduce flooding threats to life and health and to minimize private and public economic losses. It also summarizes the Act's general provisions. These include provisions for information gathering to identify lands that are unsuited for development because of flood hazards; for land-use regulations that will distinguish between floodways and floodplains; and for minimum standards that balance the greatest public good with the least private injury.

Part 2 of the Act deals with the role of state agencies in carrying out the purposes of the Act. The Department of Natural Resources and Conservation (DNRC) is named as the agency responsible for delineating floodplains and floodways for watercourses and drainways in the state. The Board of Natural Resources and Conservation is charged with designating floodplains (after a public hearing) for which political subdivisions are to establish land-use regulations. Citizens are allowed to appeal to the Board concerning any of its orders. Further powers and duties of DNRC and the Board are given in the Act. (See Chapter VI.)

Part 3 of the Act deals with the role of local government. Upon receiving floodplain information from the state, officials of a political subdivision are given six months to adopt land-use regulations which meet or exceed the minimum standards of the Board. If regulations are not adopted within six months, the department itself may enforce the regulations. In some cases, to comply with the requirements of the National Flood Insurance Program, the Board may shorten the period for adoption of land-use regulations.

The fourth part of the Act identifies permissable and nonpermissable land uses for designated floodways and flood-fringe areas. It provides for a permit system to regulate development in the floodway and flood fringe. More detailed explanations can be found in the Act itself (see Chapter VI).

Floodplain Management Section

The Montana Department of Natural Resources and Conservation, through its Floodplain Management Section, is the state agency charged with implementing the Floodplain and Floodway Management Act. The Administrative Rules for this Act describe the Floodplain Management Section's duties and responsibilities in detail. Some of these are given in this section. (See Chapter VI for complete rules.)

Because the state law was written to ensure that Montana communities with a high risk of being flooded could have full coverage under the National Flood Insurance Program, part of the responsibility of the Floodplain Management Section is to identify those communities and assure that they comply with the state law and NFIP requirements. Most Montana communities that might be subject to flooding have already been identified by the federal government and have entered the Emergency Phase of the NFIP, so the Floodplain Management Section concentrates on finding those communities with the greatest risk of damages from flooding. Such communities are in need of detailed floodplain and floodway studies so that they can effectively manage their flood-prone areas, enter the Regular Phase of the NFIP, and receive full insurance coverage. Studies required for NFIP participation are contracted by FEMA.

The identification process is conducted in conjunction with both federal and local agencies. Initially, Flood Hazard Boundary Maps and records of past floods are used to identify Emergency Phase communities that might be subject to greatest flood losses. The Floodplain Management Section then meets with local officials to ask for further information, which it passes on to FEMA for use in its studies. It informs the community on the progress of these studies and encourages local citizens to contribute to them. When FEMA completes its Flood Insurance Study and Flood Insurance Rate Map, the communities become eligible for entry into the Regular Phase of the NFIP.

The initial information gathered by the Floodplain Management Section, and the finalized Flood Insurance Study and FIRM are used by the Board of Natural Resources and Conservation as the basis for designating a floodplain or floodway in a given area. The Board's designation provides the necessary legal authority for action.

Once a local ordinance is passed, communities are accepted into the Regular Phase of the NFIP and receive the full range of insurance coverage. The Floodplain Management Section is responsible for assisting in this conversion process. The Floodplain Management Section serves as liaison between the NFIP and state and local governments. Specifically, the section's functions are to provide information on the NFIP, to coordinate federal, state, and local flood hazard mitigation efforts, to develop adequate communication with local governments so that state and federal program goals can be achieved, to provide technical assistance to local officials, and to assist or substitute for federal officials when a CAV is conducted.

Bringing communities into the Regular Phase of the NFIP is one phase of the Floodplain Management Section's work. The other is helping such communities in carrying out or expanding their management activities. It offers assistance by phone, letter, or personal visit and encourages local administrators to seek help when assistance is needed. Following are some of the services the Floodplain Management Section can provide:

1. technical assistance in delineating floodplains and floodways;
2. advice or recommendation in the preparation and adoption of a floodplain management ordinance or regulations;
3. guidance in developing a permit system to administer the ordinance;
4. technical assistance in reviewing or interpreting the hydraulic flood hazard data supplied to the community by FEMA, the Soil Conservation Service, or the U.S. Army Corps of Engineers;
5. in some cases, a review of a permit application for a local administrator to determine a proposed project's impact on the base flood elevation; and
6. advice or assistance in developing other floodplain management projects, such as flood-warning or flood-fighting plans, structural works to alleviate flood problems, or acquisition or relocation programs.

If the Floodplain Management Section cannot provide assistance with these activities, it can suggest other sources of help.

Floodplain Management Standards

As stated earlier, state law requires that floodplain regulations be consistent with NFIP standards. Specific regulations are given in detail in the next chapter. A few, however, are presented here to emphasize their importance.

1. No use shall be permitted in the floodway that results in any increase in the base flood elevation.
2. Specifically prohibited in the floodway are buildings for human habitation or assembly, and objects or structures subject to floating or movement during flooding periods.
3. Residential structures in the flood fringe must have their lowest floors, including basements, elevated two feet or more above the base flood elevation.
4. Nonresidential structures in the flood fringe must have their lowest floors, including basements, elevated or floodproofed to two feet or more above the base flood elevation.

Community Responsibilities

The Montana Floodplain Management Administrative Rules direct communities with designated floodplains or floodways to adopt land-use regulations that comply with the state law, making the communities eligible for participation in the National Flood Insurance Program. The rules also direct communities to submit these regulations to the Floodplain Management Section, which reviews them to assure compliance with the intent, purposes, and provisions of the state Act and the Administrative Rules.

There are two ways a community can meet the requirements for land-use regulation. One method is to adopt appropriate changes in existing zoning, subdivision, and building ordinances. The other method is to adopt a specific floodplain ordinance. Whichever option is selected, it should be the one which best fits a community's needs and capabilities.

Enforcement

Developments that violate the Montana Floodplain and Floodway Management Act, Administrative Rules, or a local ordinance adopted in accordance with the Act are considered a public nuisance. The Act gives the affected community or DNRC the authority to remove the nuisance at the expense of the owner. Persons violating the provisions of the Act are guilty of a misdemeanor. If convicted they can be fined up to $100 or be imprisoned in jail for up to 10 days, or both. Each day's continuance of a violation is considered a separate and distinct offense.

In prosecuting persons in violation of the Act, the local community's legal staff is encouraged to initiate any legal action. It is recommended that on discovery of a violation, an injunction be filed in court to stop construction as soon as possible to decrease hardships.

Communities that fail to adopt and enforce a floodplain management ordinance required by the NFIP jeopardize their eligibility to receive any disaster assistance, financial or otherwise, from the federal government in the event of a flood disaster.

CHAPTER III: FLOODPLAIN ORDINANCE STANDARDS

In order to comply with the Montana Floodplain and Floodway Management Act and to fulfill the requirements of the NFIP, communities must regulate development in floodplains. This chapter describes a model ordinance that sets construction standards and lists those standards. The model was written by the Floodplain Management Section to serve as a guide and it complies with both state and NFIP requirements. (Complete text is in Chapter VII.)

This model is offered to help communities adopt the necessary floodplain regulations. They may use it as is; they may wish to make it more stringent; or they may simply use the standards given to amend current ordinances.

State and NFIP Construction Standards

To effectively reduce potential flood damages, both federal and state governments have established standards for new or substantially improved construction projects and other developments in identified flood hazard areas. These standards are described in two sections. NFIP General Standards are presented first. NFIP Specific Standards and state requirements are combined in the second section. The model ordinance contains both state and federal requirements for communities with flood elevations and floodways.

General Standards

The General Standards are required of all communities participating in the National Flood Insurance Program. New or substantially improved construction or development in flood hazard areas must meet the following standards.

Anchoring

Regulations require that all structures be properly anchored to prevent them from moving off their foundations during a flood. In Montana, anchoring requirements are generally met for most permanent structures through common construction practices. Manufactured homes in special flood hazard areas must be anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. The following standards are recommended for anchoring manufactured homes that are not built to Uniform Building Code Standards.

- Over-the-top ties at each of the corners, and two additional ties per side at intermediate locations if the home is longer than 50 feet; only one additional tie per side if it is shorter;
- Frame ties at each of the corners with five additional ties per side on manufactured homes longer than 50 feet; four additional per side are required if a manufactured home is less than 50 feet in length;
- Each component of the anchoring system must be capable of carrying a force of 4,800 pounds. This is equivalent to withstanding a 90 mph wind;
- Any additions to the manufactured home must also be anchored.

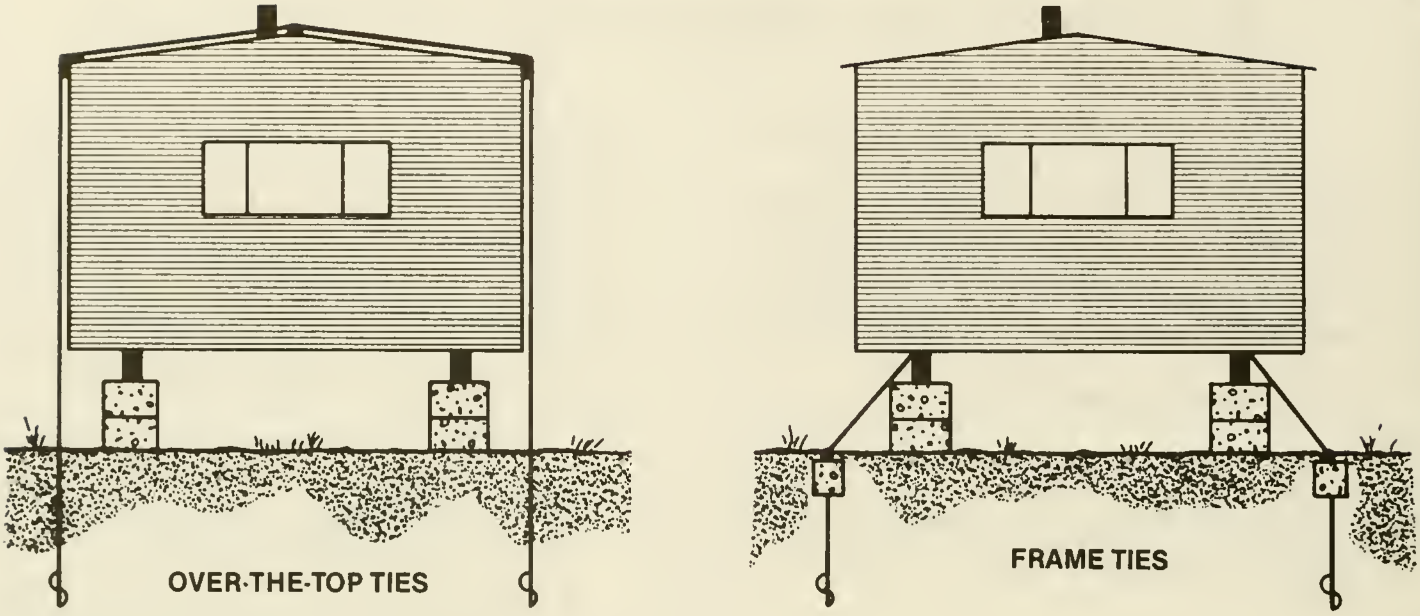
The manufactured home anchoring requirements are illustrated in Figure 2.

Construction Materials and Methods

Buildings can suffer damage in many ways during a flood: hydrostatic pressure can push walls or windows in; hydrodynamic pressure resulting from waves or debris can batter walls down; uplift can cause structures to float; and contact with water can warp or decompose walls or floors.

Because of this, the NFIP requires that new buildings in flood hazard areas be constructed with materials and methods that resist or minimize flood damage. The best method suggested is to elevate the lowest floor of a structure above the highest historical flood elevation. Where flood elevation data are not

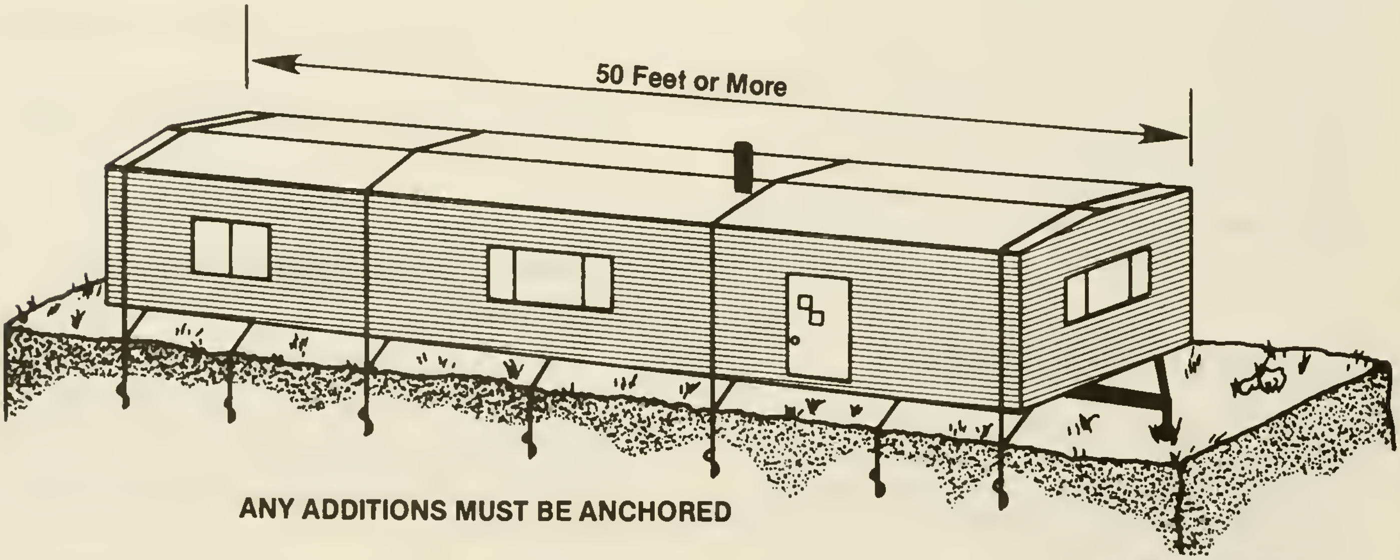
FIGURE 2
MOBILE HOME ANCHORING REQUIREMENTS



OVER-THE-TOP TIES

FRAME TIES

Each tie must be capable of withstanding a force of 4800 pounds.



ANY ADDITIONS MUST BE ANCHORED

Access for a hauler must be provided.

readily available, however, other methods will help minimize damage. For example:

- all floorings (wood or carpeting) could be made of materials resistant to water damage;
- subfloors could be made of an "exterior" or "marine" grade material that is water resistant or waterproof;
- structures can be placed in a way to offer the least obstruction to flood flows, such as with the longer side parallel to the stream.

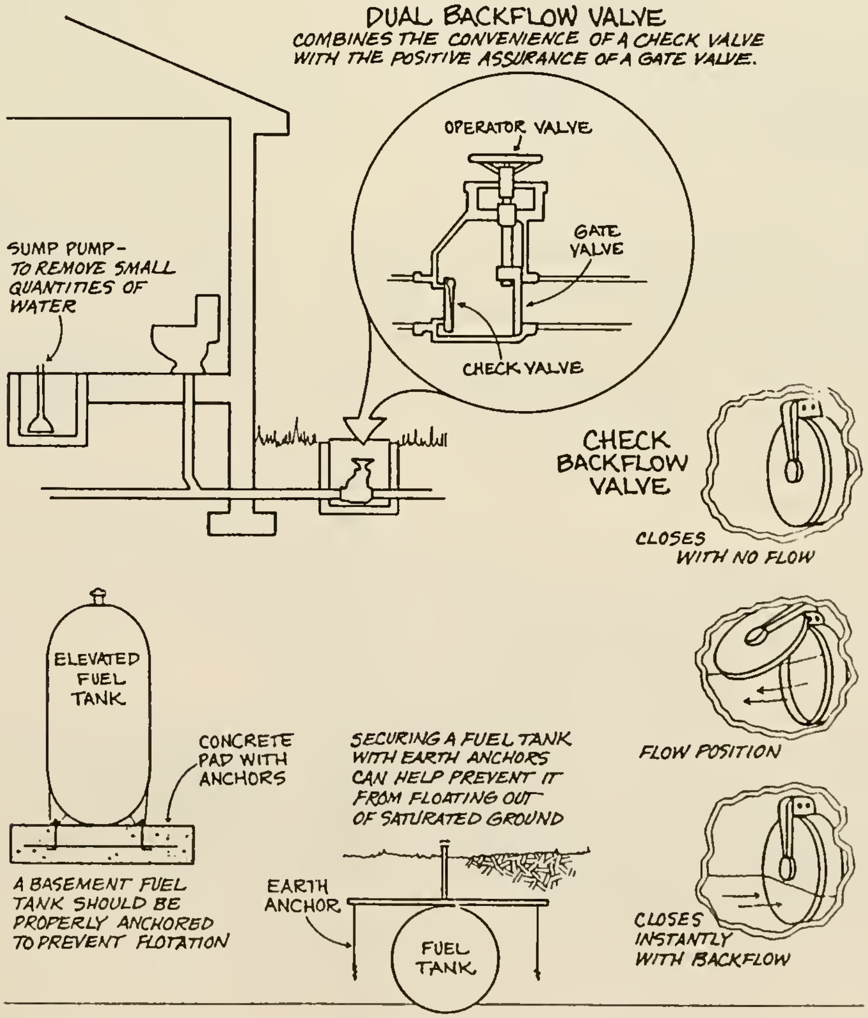
In addition to these ideas, common sense can suggest other construction practices that could reduce flood damage.

Utilities

NFIP regulations require that new and replacement water supply systems, sanitary sewer systems, and on-site waste disposal systems be designed to minimize or eliminate infiltration of flood waters into the systems.

To meet requirements, local officials must be confident that their systems are designed to prevent infiltration. For example, manhole covers should be located or designed to minimize flood damage. Waste treatment facilities, including pump stations, lagoons, and treatment plants must be floodproofed. Ring levees may have to be used to protect waste treatment facilities.

FIGURE 3
FLOODPROOFING UTILITIES IN FLOOD-PRONE STRUCTURES


DUAL BACKFLOW VALVE
COMBINES THE CONVENIENCE OF A CHECK VALVE WITH THE POSITIVE ASSURANCE OF A GATE VALVE.
OPERATOR VALVE
GATE VALVE
CHECK VALVE
SUMP PUMP - TO REMOVE SMALL QUANTITIES OF WATER
CHECK BACKFLOW VALVE
CLOSES WITH NO FLOW
FLOW POSITION
CLOSES INSTANTLY WITH BACKFLOW
ELEVATED FUEL TANK
CONCRETE PAD WITH ANCHORS
A BASEMENT FUEL TANK SHOULD BE PROPERLY ANCHORED TO PREVENT FLOTATION
SECURING A FUEL TANK WITH EARTH ANCHORS CAN HELP PREVENT IT FROM FLOATING OUT OF SATURATED GROUND
EARTH ANCHOR
FUEL TANK

On-site waste disposal and treatment systems such as septic tanks must also be designed to minimize flood damage. This requirement may be difficult to meet since on-site facilities may be located well below the first floor level of the structure they serve. Generally, any inlets to the septic tank or outlets from it should be equipped with check valves to prevent flood waters from returning through the pipes. Even though utilities are permitted by the NFIP and the state Floodplain Management Section under these conditions, the Montana Department of Health and Environmental Sciences has regulations that may be more stringent and must also be met. For examples of floodproofing methods for utilities see Figure 3.

Subdivisions

The NFIP requires that new subdivisions be regulated to reduce flood damage. Specifically, the regulations address the need to protect utilities and ensure adequate drainage. For example, electrical, gas, water, and sewer facilities should be protected from flood damage. Gas, water, and sewer systems should be designed to withstand leakage or rupture during flooding. To provide adequate drainage, building sites should be located at least two feet above the street elevation, and streets should be designed to drain properly and prevent ponding.

For large subdivisions (50 lots, or 5 acres or more) it is the responsibility of the developer to determine the base flood elevation and the boundary of the floodplain on his subdivision proposal. A grading plan showing the proposed finished elevation of streets and building sites should be included in the proposal. Areas on the grading plan that are located below the base flood elevation may be used for streets, recreation, and other uses which will not increase flooding. All structures must be located above the base flood elevation.

Subdivision proposals must undergo review by the Subdivision Bureau of the Department of Health and Environmental Sciences. Their regulations do not allow soil absorption systems within an identified floodplain.

Encroachments

All development permits must be reviewed to see if the proposed action will significantly obstruct flood waters, thereby increasing flood stages. For communities without base flood elevation data, additional justification for projects that will increase flood heights is needed, and the proposal should detail how the adverse impacts from the project will be minimized.

Specific Standards–NFIP and State Standards

In addition to the general standards required by the NFIP, certain specific standards must be met in communities where the base flood elevation (BFE) has been established. Furthermore, to comply with the state law, some additional requirements must be met. Adopting the following standards will fulfill the requirements of both laws.

Residential Structures

For new or substantially improved homes, apartments, and other residential structures, the lowest floor, including the basement, must be elevated two feet or more above the BFE. The lowest floor of structures is illustrated in Figure 4. In Montana the method of elevating structures is to build them on fill. The fill must be properly compacted, brought up to at least the BFE, and extend 15 feet in all directions from the structure. When the fill does not extend above the BFE, the foundation must be raised another two feet.

Nonresidential Structures

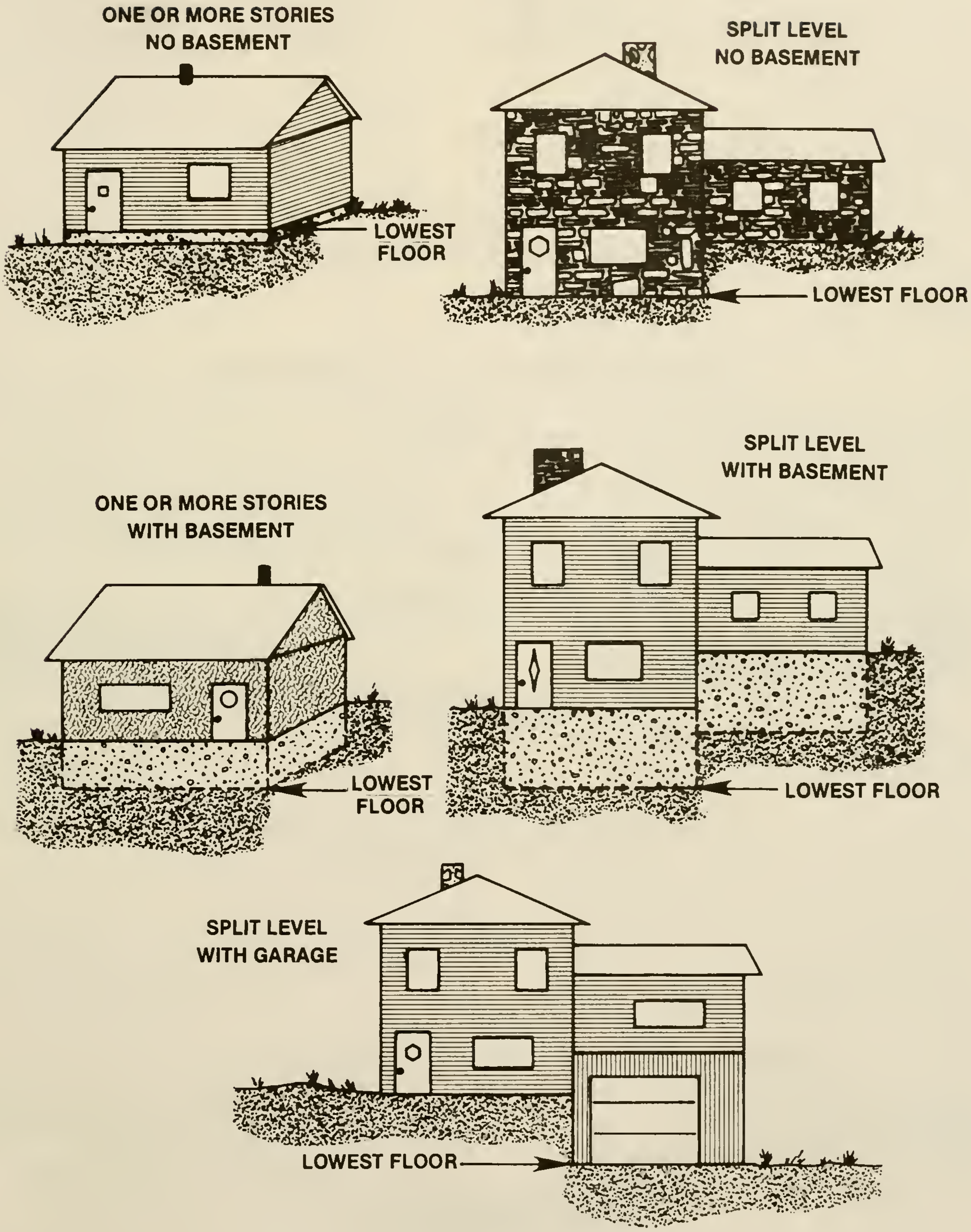
For all nonresidential structures such as office buildings or stores, the lowest floor, including the basement, must either be elevated **or floodproofed** two feet or more above the BFE.

The floodproofing method used must ensure that the structure is water tight and can resist water pressure in flooding situations. The community must have the assurances of a registered professional engineer or architect that the floodproofing method is, indeed, effective.

Manufactured Homes

In new manufactured home parks or subdivisions, the manufactured home must be elevated on fill so that the lowest floor is two feet or more above the BFE. Access for a hauler must be provided.

FIGURE 4
DETERMINING LOWEST FLOOR

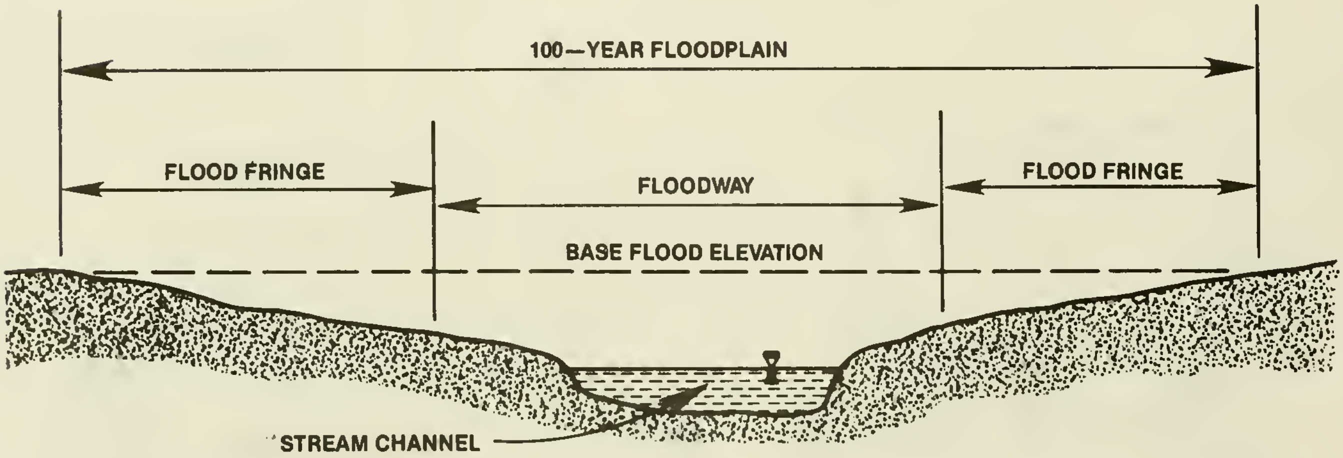


Floodways

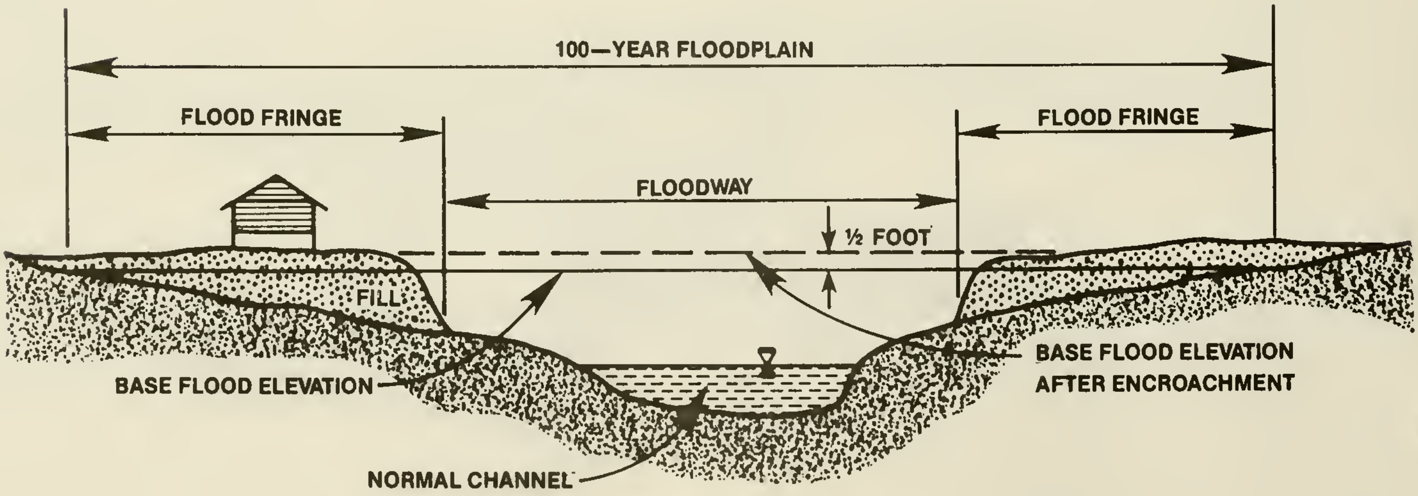
Communities which have a designated floodway (on a Flood Boundary-Floodway Map) have additional floodplain management responsibilities. The floodway is the area within which most developments would increase the base flood elevation beyond the one-half foot permitted by the regulations. (See Figure 5.) Consequently, Montana state law prohibits encroachments, including fill, new construction, or other developments in the floodway, unless it can be shown that the development would result in **no** increase in flood heights. Manufactured homes are explicitly prohibited in a floodway unless a manufactured home park existed prior to the delineation of the floodway. Manufactured home parks or subdivisions that were existing, however, cannot be expanded to include more homes. See Chapter IV, A Special Note About Manufactured Homes.

FIGURE 5
CROSS SECTION VIEW

CROSS SECTION VIEW OF FLOODPLAIN



CROSS SECTION VIEW OF FLOODPLAIN
WITH ENCROACHMENT



CHAPTER IV: ADMINISTRATIVE PROCEDURES

This chapter describes a permit system that communities can implement to regulate development. Some communities may want to vary this system by rewriting certain requirements into existing permit systems. However, if this is done, care must be taken to meet all requirements. Also discussed in this chapter are variances, enforcement, record keeping, and the local administrator.

Establishing a Floodplain Development Permit System

Communities must assure that no construction or development takes place in an identified flood hazard area without a permit. Issuing permits enables the community to be sure that the proposed development meets the standards of state laws and the NFIP.

It is important to note that the concept of "development" goes beyond the scope of the traditional building permit. Whereas the building permit is concerned only with buildings, the floodplain development permit also includes alterations to the landscape such as excavation or the use of fill which would affect drainage patterns or the flood carrying capacity of the watercourse.

When a Permit is Required

A permit is required when building or enlarging a structure, placing a manufactured home, or mining, dredging, filling, grading, paving, excavating, or drilling within flood hazard areas. In other words, **any development activity that may affect flooding or flood damage must have a permit.**

Specifically, all structural (buildings, manufactured homes, storage facilities, dams, dikes, etc.) projects need a permit. Storage of flammable, toxic, or explosive materials shall not be permitted.

Permit Application

Anyone wishing to develop in the floodplain must obtain a permit application from the local administrator and submit it for approval **before** beginning any development activities. A sample development permit application is in Appendix A. Communities may, however, adapt their existing permit systems to meet state and NFIP requirements. Regardless of the form used, a permit application for floodplain development is required, showing a complete description of the proposed activity. Enough information must be included so that the local administrator can tell whether the proposed activity will be safe from flooding and whether it will increase flood hazards elsewhere. At a minimum, there should be plans drawn to scale on a surveyed plat that show:

- the mean sea level (MSL) elevation of the lowest floor, including the basement, of all proposed structures;
- the MSL elevation to which any proposed nonresidential structures will be floodproofed;
- certification by a registered professional engineer or architect that the chosen floodproofing method meets NFIP floodproofing criteria;
- base flood elevation data for subdivisions of 50 lots or 5 acres or more. When not given on the FIRM, this data must be provided by the developer;
- a description of the extent that any watercourse (stream, river, drainage ditch) will be altered or relocated.

On the permit application form in Appendix A, there is a section to be completed by the local administrator. In this section the administrator lists the data base he or she uses when reviewing the permit application. He or she also specifies whether the proposed development is in the floodway, flood fringe, or approximate floodplain (no elevations) and gives the base flood elevation for the proposed site. Having this information listed on the application will be useful later, should the applicant question the technical basis for review of the permit.

On the reverse side of the application form, there is a section called "Building Elevation and Compliance Certification." This section should be completed after the developer has provided the local administrator with certification from a registered professional engineer or land surveyor that the permitted structure was actually built at least to the elevation required by the permit.

Reviewing the Permit Application

Reviewing a permit application is the **most** important responsibility of the local administrator. It is helpful to develop a checklist to determine if proposed projects meet the criteria of the floodplain ordinance. Several factors must be taken into consideration when reviewing any permit application. For some projects, depending on their type or location, special considerations must be included in the review procedure. The items a local administrator must consider for all cases are listed on the following pages. Special considerations are given in the following section.

1. Locate the Development

The local administrator must first determine whether the proposed development is in the 100-year floodplain. If this is not obvious, the administrator should determine the distance in the field between the proposed development site and one or more identifiable points (centerline of a street, a bridge, the river channel, etc.). Then using the map scale, he should convert the distance from the identifiable point on the map to the site. In this way, he or she can decide if the proposed development is in the 100-year floodplain.

2. Determine if the Application is Complete

The local administrator should make sure the application is complete. The application should contain a thorough description of the proposed development, including the elevation of any structures, certification of any floodproofing methods, and BFE data for subdivisions of 5 acres or 50 lots or more.

If the administrator cannot determine whether the development will be safe from flooding based on given data, he or she should ask the applicant for more information.

3. Determine the Base Flood Elevation (BFE)

In order to review a permit application, the local administrator must know the 100-year or base flood elevation at the development site. If the local administrator has a Flood Insurance Rate Map and Flood Insurance Study, BFE data for the development site are readily available. Reports from other federal or state agencies may be available. These would include flood hazard analyses from the Soil Conservation Service or the U.S. Army Corps of Engineers, or studies by DNRC or the U.S. Geological Survey.
In A-zone areas where no elevation data is available from FEMA or any other source the floodplain administrator still has several options. Alternative sources of flood elevation data are listed below.

Find aerial photos of past floods (sometimes available from the State Highway Department).

Look for high water marks on buildings, telephone poles, bridges, or other structures.

Scan newspaper accounts or photos of past floods.

Request assistance from the Soil Conservation Service or U.S. Army Corps of Engineers to do a flood study.

The U.S. Geological Survey can determine flood magnitudes of past floods. For example, if you have aerial photos of a particular flood, sometimes the USGS has discharge data to determine the flood magnitude. Flood magnitude is measured by percent of occurrence such as a 10 year flood, 25 year flood, 100 year flood etc.

Once the local administrator obtains the flood hazard data, reviewing the description of the proposed project in relation to the flood hazard will determine whether it will be safe from flooding. For example, if the available information shows a BFE of 4,930 feet MSL and the permit application indicates the proposed structure will have its lowest floor built to an elevation of 4,927 feet MSL, then it will be subject to 3 feet of water during the base flood. The local administrator must not grant a permit for this structure unless the applicant agrees to elevate it 2 feet or more above the base flood elevation. Or, suppose a proposed project with a basement is in a special flood hazard area (100-year floodplain) on the Flood Hazard Boundary Map, and the local administrator knows from newspaper accounts that that area of town suffers from street and basement flooding during rainstorms. In such a case, the administrator may issue a permit only if the structure is built without a basement.

4. Other Considerations

The local administrator must make sure the proposed activity meets the standards of the Floodplain and Floodway Management Act listed in the previous chapter. In reviewing an application, the key is that the proposed activity itself must be safe from flooding and that it must not increase the flood hazard to other areas.

5. Additional Permits

The local administrator should be able to tell the applicant when an additional permit might be required. Following are some additional regulations that might apply to projects he or she evaluates.

Montana Water Quality Act. This law established surface water quality standards and a permit program to control the discharge of pollutants into state waters. The permit must be obtained before any discharge can occur. The Department of Health and Environmental Sciences (DHES) administers this law.

Natural Streambed and Land Preservation Act (310 Permit). This act requires any persons or private organizations to gain the approval of the local Conservation District before beginning any development on private or public lands within the high water marks of a perennially flowing stream.

Stream Protection (124 Permit). The law declares that state, county, or municipal government agencies must notify the Fish, Wildlife and Parks Department when any construction project will obstruct, damage, diminish, destroy, change, modify, or vary the natural existing shape and form of any stream or its banks or tributaries. Projects by established irrigation districts are exempt. Federal agencies, while not under state jurisdiction, are asked to comply.

Federal Water Pollution Control Act-Clean Water Act (404 Permit). Section 404 of this act requires that a permit from the U.S. Army Corps of Engineers be obtained before discharging dredged or fill material into waters of the United States or on adjacent wetlands. Some minor activities are allowed by nationwide or general permits.

River and Harbor Act. Section 10 of the River and Harbor Act of 1899 requires a U.S. Army Corps of Engineers permit before any work can commence in navigable waters of the United States. The Kootenai River is considered a navigable water of the United States from Jennings upstream to the Canadian border. The Seattle District can give permit requirements on this waterway. The Missouri River from Three Forks to the North Dakota state line and the Yellowstone River downstream from Emigrant also are navigable waters. The Omaha District of the U.S. Army Corps of Engineers should be contacted for permit requirements on these rivers.

Lakeshore Protection. This permit program, administered by county commissioners, is similar to that for protection of floodplains. County Planning Offices have information and permit applications.

E.O. 11988 Floodplain Management & E.O. 11990 Protection of Wetlands. These executive orders apply to federal agencies and provide guidance for actions dealing with the nation's floodplains and wetlands, whether federally or privately owned.

The federal government is responsible for influencing activities so as to avoid development of floodplains and wetlands wherever there is a practical alternative. Local agency offices should be contacted.

Water Rights. Before anyone can divert or impound water for a new use, or change an established use of water in any way, they must receive a permit from DNRC. This includes water removed from a stream for dredge mining. Local Water Rights Bureau field offices can provide details.

Special Considerations on Permit Reviews

Floodways

If a community has a regulatory floodway and the local administrator determines that the proposed development is located within it, then a permit may not be issued unless the applicant can demonstrate that his development will not increase flood heights at all. Usually such developments are limited to open-space uses for recreation or agriculture.

Structures existing in a floodway prior to floodway identification are "grandfathered" in and are not subject to floodplain regulations. Any substantial improvements (50 percent of the market value or more) or alterations (expansion) to such structures, however, must be in compliance with the floodplain ordinance.

Allowable Floodway Uses

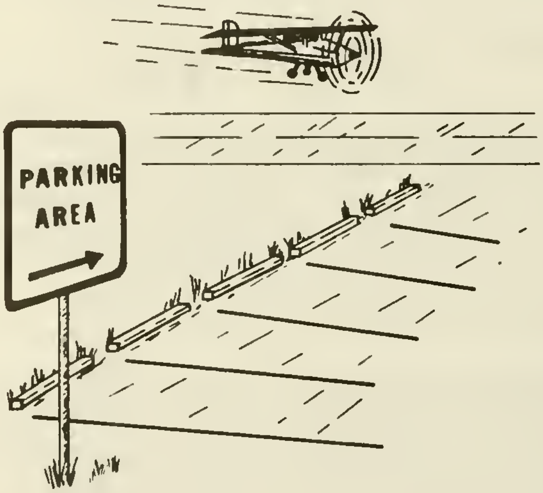
- The only developments that may be permitted in a floodway are those that will not cause any increase in the base flood elevation. (See Figure 6.) Typically, these include:

- uses incidental to industrial or commercial structures, such as loading areas, parking areas, and airport landing strips;
- private and public recreational uses, such as golf courses, driving ranges, picnic grounds, boat launching ramps, swimming areas, wildlife and nature preserves, fish hatcheries, target ranges, hunting and fishing areas, hiking and horseback-riding trails;
- uses incidental to residential structures, such as lawns, gardens, parking areas, and play areas.

FIGURE 6
ALLOWABLE FLOODWAY USES

THE ONLY DEVELOPMENTS WHICH MAY BE PERMITTED IN THE FLOODWAY ARE THOSE WHICH WILL NOT CAUSE ANY INCREASE IN THE BFE. TYPICALLY, THESE INCLUDE:

1. **Agricultural uses.**



2. **Uses incidental to industrial or commercial structures, such as loading areas, parking areas, & airport landing strips.**

3. **Private & public recreational uses, such as golf courses, driving ranges, picnic grounds, boat launching ramps, swimming areas, wildlife & nature preserves, fish hatcheries, target ranges, hunting & fishing areas, & hiking & horseback riding trails.**

4. **Uses incidental to residential structures, such as lawns, gardens, parking areas, & play areas.**

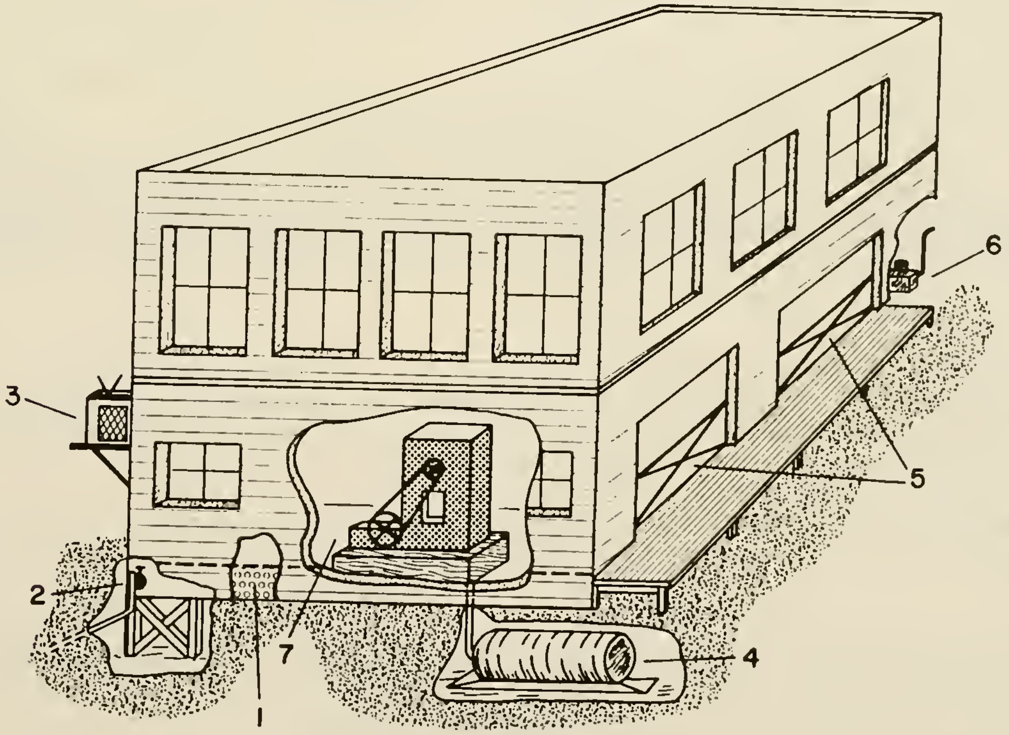
Nonresidential Structures

NFIP regulations allow nonresidential buildings (commercial structures, garages, warehouses, etc.) the option to floodproof rather than elevate as a means of protection from the Base Flood. Floodproofing consists of designing a structure in a way that all parts of the structure located below the BFE are watertight and resistant to flood damage. One method of floodproofing is known as dry floodproofing. This method is described below and illustrated in Figure 7.

Dry floodproofing means that the actual design of a structure provides protection from the Base Flood. The structure must be designed to prevent seepage, collapse, or cracking of basement walls, buckling of basement floors, and back-up of water from sewer lines. Walls and floors must be capable of withstanding hydrostatic pressure and all openings must be located two-feet above the BFE. Walls and floors must be made watertight, with waterproof seals and coverings used on exterior surfaces. The building must have sufficient weight to resist flotation. Features of dry floodproofing must operate automatically without human intervention. Floodproofing measures on nonresidential structures must be certified by a qualified engineer or architect.

Another method of floodproofing nonresidential structures under the NFIP is reliant on human intervention. This involves the use of door and window shields as temporary protection from the Base Flood. This method should be used only where adequate flood warning time or devices are present. Extreme caution must be used in designing this floodproofing measure. Generally, door and window shields are not effective for flood depths in excess of three feet, and may cause more damage to older structures than they prevent.

FIGURE 7
FLOODPROOFING OF COMMERCIAL OR INDUSTRIAL STRUCTURE TO TWO FEET ABOVE BFE



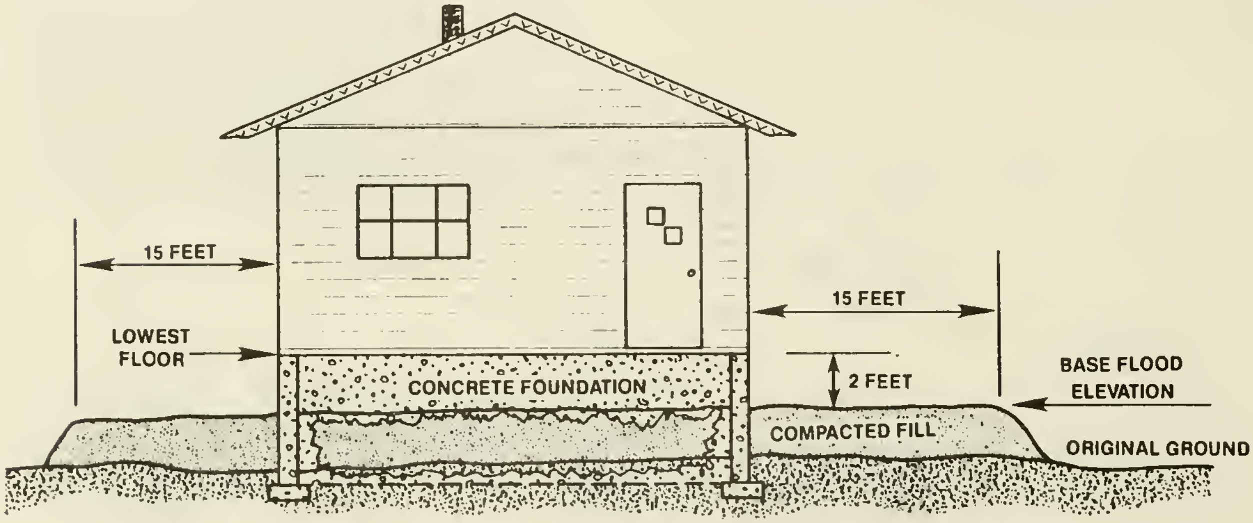
1. Impermeable membranes to two feet above BFE.
2. Valve on sewer line to prevent back flow.
3. Power service equipment raised to two feet above BFE.
4. Underground storage tank properly anchored.
5. Steel bulkheads for doorways.
6. Sump pump and drain to eject seepage.
7. Internal floors and walls made of materials resistant to flood damage to two feet above BFE.
8. Automatic shut-off valves on furances and fuel supply lines.

Residential Structures

Residential structures must be elevated rather than floodproofed. The lowest floor of residential structures must be elevated two-feet or more above the BFE. It must also be placed on a pad of compacted fill that is at or above the BFE. The pad must extend out 15 feet in all directions from the structure. (See Figure 8.)

NFIP regulations require a community to obtain and maintain a record of the elevation of the lowest floor of all new or substantially improved structures in the flood hazard area. To comply with this regulation, communities must require the owner or developer of such structures to provide an "Elevation Certification" once the structure is completed. Check Appendix B to see an Elevation Certificate.

FIGURE 8
FLOODWAY FRINGE:
RESIDENTIAL STRUCTURES



Regulations for Residential Structures

1. The new residential construction, alteration, and substantial improvement must be constructed on suitable fill so that the lowest floor elevation (including basement) is two feet or more above the BFE. The fill elevation is to be no lower than the BFE and shall extend for at least 15 feet beyond the structure in all directions.

2. Suitable fill is material which is stable, compacted, well graded, pervious, generally unaffected by water and frost, devoid of trash and organic material, and is fitted for the purpose of supporting the permanent structure.

3. It must be anchored to prevent flotation or collapse. Mobile homes must use over-the-top and frame ties at each corner and additional ties per side at intermediate points. Any additions must be similarly anchored. Normal use of anchor bolts for residential structures is adequate.

4. Adequate surface drainage must be provided.

Subdivisions

NFIP regulations require that developers supply base flood elevation data for projects that exceed 50 lots or 5 acres. The intent of this requirement is to obtain BFE data, which can then be used to require floodproofing of new construction. Any elevation data used to satisfy this requirement will in turn be the basis of elevation and floodproofing standards for structural development that takes place in the subdivision.

Accordingly, the elevation data provided by the applicant for subdivision plat approval should be consistent with the scope and scale of his proposal. For instance, if an applicant proposed to subdivide 20 acres of rural land into 4 equal parcels and no immediate construction was planned, then only the most elementary elevation data would be necessary. However, if a developer's proposal was for 20 acres of land to be divided into 80 lots, then the developer should obtain data as sophisticated as that required by the Flood Insurance Study.

In determining how detailed an applicant's BFE data should be, the local administrator should obtain the following information from the applicant:

- The size and complexity of the proposed subdivision;
- The percentage of the subdivision area that would be flood-prone;
- The intended use of the flood-prone area (i.e., structural development, open space, parking).

Such information allows the local administrator to determine the extent of the flood hazard in the subdivision and, consequently, how detailed the applicant's base flood elevation data should be.

Manufactured Homes

In reviewing a permit for the placement of a manufactured home in a manufactured home park located in a flood hazard area, the local administrator must determine if the manufactured home is an addition to an existing park or if it replaces a home that has moved out. If the manufactured home is a replacement, it does not have to meet the standard for elevation of the lowest floor. It does, however, have to meet the tie-down requirements. If the manufactured home is an addition to the park (in other words, the park is being expanded to include more homes), then it must be placed in such a manner that the lowest floor is elevated two feet or more above the BFE and it must be tied down.

Completely new manufactured home parks or additions, or manufactured homes on individual sites, must have the lot or pad elevated so that the lowest floor will be two feet or more above the BFE. Adequate drainage must also be provided. These homes must also meet the anchoring (tie-down) requirements. If the manufactured home is permanently anchored to a foundation, (bolted to a poured concrete or block foundation that extends below the frost line), then it meets anchoring requirements. Manufactured homes placed on blocks, however, do not have adequate protection from flooding and must be tied down.

A Special Note About Manufactured Home Standards

The NFIP has gone through some revisions of its manufactured home standards. In October 1986, NFIP changed the old term of mobile home to manufactured home and developed a new definition for manufactured home. The new regulations also eliminated the grandfather clause for replacement of mobile homes in an existing mobile home park. This meant that any replacement manufactured home had to be elevated as well as anchored. This presented a problem in Montana. State law only allows for elevation on a pad of fill. Because fill is not allowed in the floodway, replacement of manufactured homes couldn't be allowed in the floodway because the elevating requirement could not be met.

FEMA placed an April 1, 1986 deadline for communities to adopt the new NFIP regulations. The DNRC Floodplain Management Section developed a model ordinance to include the new NFIP regulations. This ordinance is dated December 15, 1986 and a copy is included in the Guidebook. The new model ordinance does not allow for replacement of manufactured homes in the floodway, and replacement manufactured homes in the floodway fringe must be elevated on fill and anchored. Several Montana communities have adopted this new ordinance.

The new regulations caused an uproar from the mobile home park owner associations across the country. These groups protested the new regulations and FEMA decided to suspend the regulations until July 31, 1989. At that time the regulations are supposed to go back into effect. The purpose of the suspension was to gather comments from the public on the regulations and evaluate possible alternative solutions to prevent increasing mobile home flood damage.

A FEMA representative gave a report to the Regulation Committee at the annual conference of the

Association of State Floodplain Managers. He speculated that FEMA will not reinstate the manufactured home park grandfather clause entirely and they won't require elevation across the board. They may set up a fixed period of time (possibly 10 years) when any grandfather clause would end.

As the regulations stand at the time of printing this publication, mobile homes can be replaced in a pre-existing mobile home park and no elevating is required. Mobile homes replaced on individual sites must be elevated. All manufactured homes placed in the floodplain must be anchored. If you have questions about the current status of mobile/manufactured home regulations please contact the Floodplain Management Section.

Watercourse Alterations

Whenever a local administrator reviews a development permit that includes a watercourse alteration (for example, realignment or diversion of a stream, ditch, or river), he or she must be satisfied that the flow-carrying capacity of the watercourse will not be diminished. In order to do this, the permit applicant must supply a thorough description (a set of plans and calculations) of the proposed alteration and its effect on flows. If the administrator does not have the technical background to review such descriptions, he or she must rely on the community's engineering staff, the state Floodplain Management Section, or seek outside professional assistance. Basic items the administrator should look for include:

- A determination that the hydraulic capacity of the watercourse will be the same or greater after the alteration. For example, if a new road is crossing a stream or coulee, culverts under the road must not place an undue constriction on the channel, causing flood waters to back up.

- Maintenance of channel stability. Several factors relating to channel stability can influence or change a watercourse. For example, the alignment and grade of a channel or the material on the channel banks and bottom can affect the flow velocity, which in turn may cause erosion.

Generally, an applicant should provide the administrator with a topographic map of the area in question, a comparison of the existing and proposed channel capacities, a description of the proposed alteration, land use of adjacent properties, a description of any obstructions, and photos of the area.

Regulations require the local administrator to notify adjacent communities and the Montana Floodplain Management Section of any proposed watercourse alterations. It would also be advisable to notify the local conservation district and the state Department of Fish, Wildlife and Parks of proposed alterations.

Acting on the Permit Application

When a local administrator completes his review of a development permit application, he may approve the permit, conditionally approve the permit, or deny it.

If a permit application describes a development that will be built in compliance with floodplain regulations, the local administrator may give his approval simply by marking the appropriate box on the application form, signing it, and providing a copy to the applicant.

If the permit application describes a development that would be in violation of the floodplain ordinance, the local administrator may conditionally approve the application if the applicant agrees to modify his development. In cases where minor modifications will bring an application into compliance with the ordinance, the local administrator should work with the applicant to modify problem aspets of the development.

When a permit application is in serious violation of the floodplain ordinance, the local administrator must deny the permit and should explain to the applicant why it was denied.

Applicant's Options

If an applicant is denied a permit, he has three options:

1. He may redesign his development so that it meets standards;
2. If he feels the administrator is in error, he may appeal the decision to the local governing body; or
3. If he feels the ordinance places an undue hardship on his property, he may request a variance to the ordinance.

Variances

A variance is a waiver of one or more of the specific standards required in ordinances. In regard to the floodplain ordinance, the general rule of thumb is: **Variances should not be granted.**

This statement is based on the idea that a variance represents a community's approval to set aside floodplain regulations that were adopted to reduce loss of life and property due to flood damages. While the impact of a single variance on flood hazards may not be significant, the cumulative impact of several variances may be severe.

If a developer requests a variance, however, the community should have a consistent and fair policy to deal with such requests. The model ordinance in Chapter VII addresses variances in Section 4.04. It establishes an appeal board to act on variances. This board may be the city council, planning and zoning commission, or an independent body, whichever best suits the needs of the community.

Section 4.04 also sets guidelines for the appeals board to use in reviewing variance requests. Generally, variances may be granted only if:

- there is good and sufficient cause;
- failure to grant a variance would result in exceptional hardship to the applicant;
- the variance will not result in increased flood hazards elsewhere;
- a reasonable location outside the floodplain is not available;
- and, most importantly, approval of the Floodplain Management Section is obtained prior to approving any variance.

Administrative Responsibilities

Regarding variances, NFIP regulations list two important documentation requirements:

1. The granting of a variance does not lessen or waive any insurance premium rates. Consequently, when a variance is granted, the local administrator must provide **written** notification to the applicant that a project granted a variance is not exempt from the insurance requirements. In some instances, a variance may result in increased insurance premium rates that could go as high as $25 per $100 of coverage.
2. Any community granting a variance must maintain a record of all variance actions. This would include the justification for granting the variance, a record of the appeals proceedings, and a copy of the written notification referred to above.

Enforcement

A floodplain ordinance cannot reduce the severity of flood damages unless it is properly enforced. Adequate, uniform, and fair enforcement stems from two requirements:

1. That all new developments or substantial improvements to existing developments have a permit; and
2. That all developments with a permit be built to the standards of the Montana Floodplain and Floodway Management Act and the NFIP.

Communities need to establish a procedure to ensure that these two requirements are met. For example, the best way to ensure compliance with the first requirement is to have a permit form displayed at the development site. Such a form could be brightly colored, so that it is easily seen. It should be printed on durable waterproof cardboard to withstand outdoor conditions during the construction period. When construction is taking place without a permit, local officials or neighbors can easily report such occurrences to the local administrator.

Communities can ensure the development is actually being built to standards by having the local administrator make periodic inspections during the construction period. Such inspections should be documented in the project file.

Communities may also consider establishing a "Certificate of Occupancy" system that would prohibit anyone from occupying a new structure before it is inspected to ensure that all community building codes, including the floodplain ordinance, have been met. Before a Certificate could be issued in the flood hazard area, a statement would have to be submitted by a registered engineer, architect, or surveyor certifying the lowest floor or floodproofing elevation.

Violations

If a local administrator becomes aware that development is occurring in the floodplain without a permit or contrary to permitted plans, he should consult with the community's attorney. Together, they should try to persuade the developer to comply with the floodplain ordinance. If the developer refuses to comply, the attorney must take legal action.

Enforcement of the floodplain ordinance must not be taken lightly. Communities that do not strictly maintain a permit system or that are lax in their enforcement responsibilities violate the agreement they have with the National Flood Insurance Program. The consequences of noncompliance for communities participating in the NFIP are listed below.

Penalties For Noncompliance with NFIP

Communities opting not to participate in the National Flood Insurance Program (NFIP) or communities that are suspended from the NFIP for not enforcing an effective floodplain ordinance are subject to the following consequences:

Flood insurance will not be available. No resident will be able to purchase a flood insurance policy.

Federal agencies may not provide grants or loans for buildings in identified special flood hazard areas of communities not participating in the NFIP. This includes agencies such as Housing and Urban Development, the Small Business Administration, Farmer's Home Administration, the Economic Development Administration, and the Environmental Protection Agency.

No Federal mortgage insurance may be provided in identified flood hazard areas. This includes FHA, VA, and SBA or federally backed mortgage guarantees.

No Federal Disaster Assistance. In the event of a federally declared flood disaster, no federal disaster assistance would be made available to identified flood hazard areas in nonparticipating communities.

Some factors that might make a community want to reestablish eligibility in the NFIP include:

- a change in the governing body with new policy direction;
- desire for a larger share of the mortgage market through FHA, VA, SBA loans;
- the desire for a federal grant or loan for a particular project (e.g., a sewage treatment plant);
- a major disaster, triggering need for disaster aid; or
- changed political pressures.

Record Keeping

Record keeping is an extremely important part of a community's responsibility when participating in the NFIP. It is the responsibility of the Floodplain Administrator to keep the following records on file and available for public inspection.

1. A complete and up-to-date copy of the floodplain ordinance, the flood map (FHBM or FIRM), and the Flood Insurance Study (FIS). If the FIS has not been completed, the community should obtain and maintain the best flood hazard data available for the area and use it in regulating floodplain development.
2. A record of the elevation of the lowest habitable floor (including the basement) of all new or substantially improved structures in the Special Flood Hazard Area. For floodproofed structures, there must be a record of the elevation to which they have been floodproofed. Local administrators must require developers to complete the "Elevation Certification" form or "Floodproofing Certification" form in Appendix B and C to meet this NFIP requirement.
3. A project file for each development permit application. This file should contain:
   - A. a copy of all permit applications;
   - B. plans of the development in duplicate drawn to scale showing:
     dimensions of the development site;
     elevations of the development site;
     proposed structures: buildings, manufactured homes, bridges, culverts, etc. (include existing structures where appropriate);
     placement, number, and type of anchors for manufactured homes;
     utility connection locations: sewer, water, gas, and electric;
     bridge and culvert plans must include hydraulic computations by a registered

    engineer;
    fill location and dimensions;
    storage of materials;
    drainage facilities;
    water course alterations including plan drawings, cross sections, and hydraulic computations.

  C. copies of all pertinent correspondence relating to the project;
  D. any variance or appeals proceedings;
  E. documentation of inspections of the development;
  F. base flood elevation data for subdivisions of 5 acres, 50 lots, or larger;
  G. certification forms for floodproofing, and certification forms indicating the lowest floor elevation of all structures; and
  H. a copy of the certificate of occupancy, where applicable.

4. A file for the Biennial Reports that must be submitted to the Federal Emergency Management Agency every two years. The local administrator may want to keep the following information in this file:

  A. copies of previous Biennial Reports;
  B. a running total of permits and variances granted in the flood hazard areas;
  C. maps of new annexations or other boundary changes;
  D. census data;
  E. Records of any major natural or man-made changes affecting flooding patterns.

The Biennial Report will be easy to complete if this information is readily available in one place.

Local Floodplain Administrator

NFIP regulations require a community to designate an official with the responsibility, authority, and means to implement the ordinance they have adopted in compliance with the NFIP. The designation of an administrator is incorporated into the text of the model ordinance in Chapter VI.

Fair administration is the key to a successful permit system. To ensure fair administration, the person selected as the administrator must have basic knowledge of construction and must understand the NFIP. He or she must also have the support of the local governing body.

Oftentimes, particularly in small communities, the position of floodplain administrator is part-time. The administrator may also be the building inspector, zoning administrator, sanitarian, planner, or clerk. When the floodplain administrator cannot devote fulltime to the job, he or she is in special need of the cooperation and support of all other community officials and departments in implementing the floodplain ordinance.

The local administrator's job is not an easy one. If questions or problems arise, technical assistance is available from the state Floodplain Management Section. The phone number and address are found inside the front cover of this book.

The duties of the local floodplain ordinance administrator are summarized below.

Administration of the Floodplain Permit System

The local administrator is responsible for all aspects of the development permit process, including:

- making permit application forms available to prospective developers;
- reviewing all permits to determine whether they are in compliance with the ordinance;
- providing base flood elevation data when FEMA has not, and obtaining the best available data from other sources to use in reviewing permits;
- approving, conditionally approving, or denying all permit applications;
- following up on all permits granted with inspections; and
- initiating enforcement proceedings necessitated by ordinance violations.

Watercourse Alteration Notification

If a development permit application proposes a watercourse (stream, river, drainage ditch) alteration, the local administrator must notify adjacent communities and the state Floodplain Management Section of the proposed action. Such alterations must also be explained to FEMA in the Biennial Report.

Interpretation of Map Boundaries

When there is a conflict between the boundary on the flood map issued by FIA and actual field conditions, the local administrator must make interpretations as to the exact boundaries of the flood hazard area. The local administrator does not, however, have to determine a particular structure's location on the map for flood insurance purchase requirements of lending institutions. That decision rests with the lender.

Submission of Information

Copies of permits, variances, and biennial reports must be sent to the state Floodplain Management Section.

Denial of Flood Insurance for Buildings in Violation of Floodplain Standards

Under Section 1316 of the National Flood Insurance Act, flood insurance can be denied to properties in violation of state or local floodplain regulations. FEMA will not allow new flood insurance coverage for any property declared in violation of floodplain regulations by the state or local entity in which the violation exists. The local governing body should include in its floodplain regulations a statement that it has the legal authority to file a 1316 declaration and an explanation of the 1316 process. A valid declaration shall consist of:

1. The name(s) of the property owner(s) and address or legal description of the property sufficient to confirm its identity and location;
2. A clear declaration that the property is in violation of a cited state or local law, regulation or ordinance;
3. A statement citing the local governing body's legal authority to file a 1316 declaration;
4. Evidence that the property owner has been provided notice of the violation and the prospective denial of insurance; and
5. A statement that the declaration is being submitted pursuant to Section 1316 of the National Flood Insurance Act of 1968, as amended.

Denial of flood insurance coverage may hinder efforts to obtain commercial financing for unauthorized floodplain structures.

Letters of Map Amendment and Revision

The Federal Emergency Management Agency (FEMA) recognizes that floodplain maps and studies may need to be revised to remain up to date. When errors in the maps involve a small area or there is only a minor change to the floodplain or flood hazard, FEMA does not issue a new map. Instead, FEMA issues a letter that describes the error or change. This is called a Letter of Map Amendment (LOMA) or a Letter of Map Revision (LOMR).

A Letter of Map Amendment is issued for small, single parcels of less than 10 acres. A LOMA can be obtained for parcels naturally above the 100-year floodplain elevation that were erroneously included in the 100-year floodplain. Due to the scale of some studies, small areas higher than the 100-year flood level may not be detected and can be inadvertently included in the floodplain. LOMA's can also be obtained for single structures that have been raised by fill dirt to a level above the 100-year floodplain. A LOMA can be requested by the owner or lessee of the property.

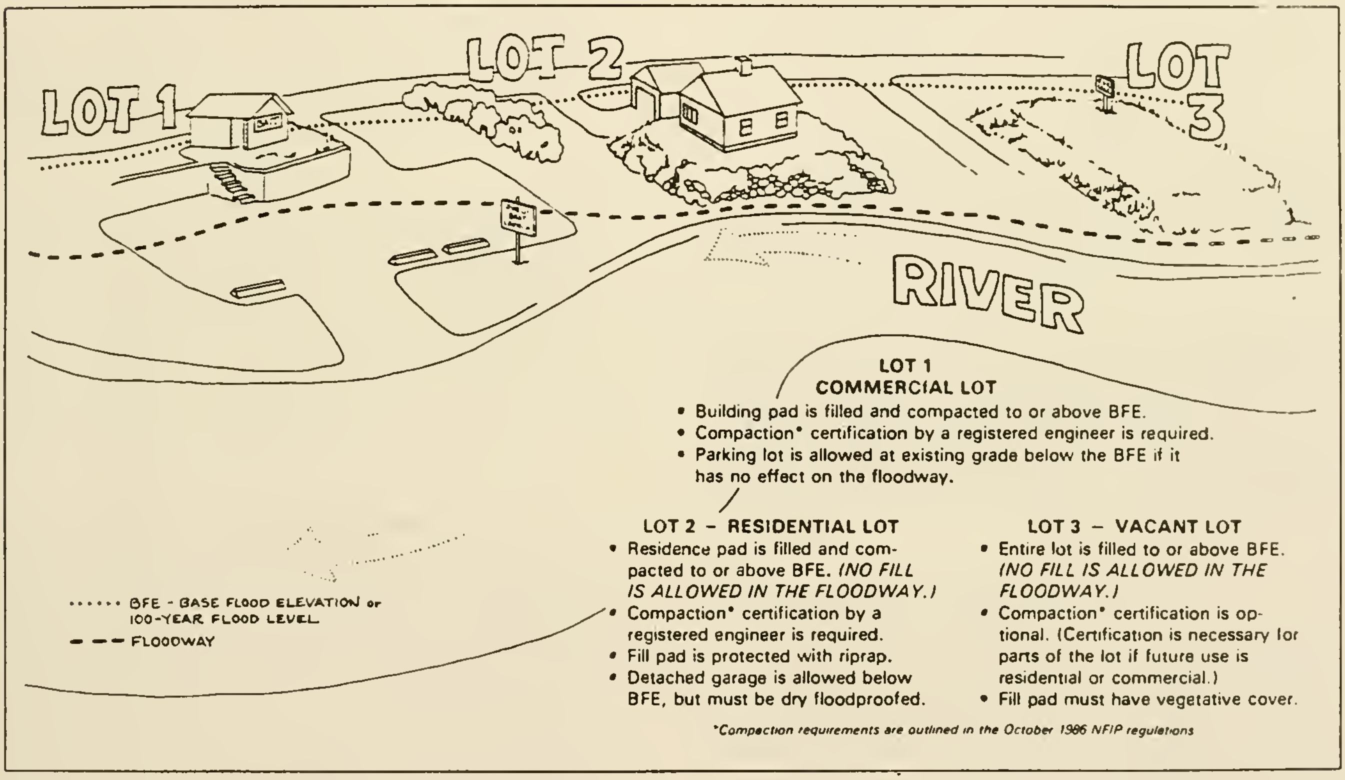
Letters of Map Revision are also issued for property naturally above the floodplain or structures raised above the 100-year flood level. However, a LOMR is issued for parcels larger than approximately 10 acres or for several contiguous parcels. When property shown in the floodway is naturally above the 100-year flood level, a LOMR is issued. The request for a LOMR must be submitted by the property owner or developer to the community's Chief Executive Officer. The CEO then forwards the request to FEMA's regional office in Denver. Areas protected from a 100-year flood by a levee also can qualify for a LOMR. The levee must be designed to FEMA specifications to be considered. Generally, when applying for a LOMR, more technical data is required than for a LOMA.

The main reason for obtaining a LOMA or LOMR is to waive the federal flood insurance requirements. However, granting of a LOMA or LOMR by FEMA does not automatically cancel flood insurance requirements originally imposed on a structure. Persons initiating a LOMA or a LOMR should check with their lending institutions to see if they will honor the LOMA or LOMR. The lending institution can still choose to require flood insurance.

Obtaining a LOMA or LOMR does not automatically lift floodplain restrictions. The Board of Natural Resources and Conservation must approve changes of a designated floodplain before floodplain regulations are waived. The board will consider requests for floodplain designation changes for areas protected by levees or naturally above the 100-year flood elevation. The board will not lift the floodplain designation for areas that have been raised to the 100-year floodplain level by the placement of fill dirt. The board has taken the position that the floodplain regulations should still apply to these areas.

For more information on map revisions and amendments, call or write DNRC for a copy of Appeals, Revisions, and Amendments to Flood Insurance Maps: A Guide for Community Officials.

FIGURE 9
LOMA EXAMPLES


LOT 1
LOT 2
LOT 3
RIVER
•••••• BFE - BASE FLOOD ELEVATION or 100-YEAR FLOOD LEVEL
— — — FLOODWAY

LOT 1
COMMERCIAL LOT

- Building pad is filled and compacted to or above BFE.
- Compaction* certification by a registered engineer is required.
- Parking lot is allowed at existing grade below the BFE if it has no effect on the floodway.

LOT 2 – RESIDENTIAL LOT

- Residence pad is filled and compacted to or above BFE. *(NO FILL IS ALLOWED IN THE FLOODWAY.)*
- Compaction* certification by a registered engineer is required.
- Fill pad is protected with riprap.
- Detached garage is allowed below BFE, but must be dry floodproofed.

LOT 3 – VACANT LOT

- Entire lot is filled to or above BFE. *(NO FILL IS ALLOWED IN THE FLOODWAY.)*
- Compaction* certification is optional. (Certification is necessary for parts of the lot if future use is residential or commercial.)
- Fill pad must have vegetative cover.

**Compaction requirements are outlined in the October 1986 NFIP regulations*

CHAPTER V:
PLANNING TO REDUCE FLOOD DAMAGE

There are several measures that can be part of a community's comprehensive plan that would reduce flood damages. These measures are divided into two categories: structural and nonstructural.

Structural Measures

These measures include various types of flood control projects that physically keep water away from certain areas. Structural measures are effective as long as they are properly designed and maintained. Once a flood control structure is built, it must be properly maintained or it may fail during a flood.

Structural flood control measures are expensive. These type of measures provide a sense of security and can encourage floodplain development or provide for continued occupation of flood-prone areas. Structural methods do not provide for a comprehensive floodplain management plan, and are only a partial solution. Nonstructural methods should also be incorporated into a plan to reduce flood damages.

Dams and Reservoirs

There are several types of reservoirs. One type of reservoir stores water when streamflow is excessive and then gradually releases water through a controlled outlet after the flood threat has passed. The other type is called a detention basin. This is a smaller impoundment that usually has uncontrolled or fixed outlets. Detention basins retain and retard flood waters at a low cost, but the benefits do not extend far below the impoundment.

Levees and Floodwalls

Levees and floodwalls are structures built to prevent flood waters from overflowing onto the floodplain by confining the stream flow. Floodwalls are usually built of reinforced concrete, while levees are usually constructed of earthen materials. A false sense of security can be associated with levees and floodwalls because: 1) they have a limited design life, 2) improper design could cause the system to fail, and 3) these structures could be overtopped by a flood larger than the design flood. Many levees were built in haste during past flood emergencies and do not meet acceptable standards for permanent flood control projects.

Channel Improvements

Flood stages can be reduced by improving flow conditions within a channel and by increasing a stream's carrying capacity. Methods used to improve channels include:

- Channel straightening to increase the discharge rate;
- Deepening or widening to increase size of waterway;
- Clearing to remove brush, trees, and other obstructions; and
- Lining with concrete to increase efficiency.

Other structural methods of flood control, such as storage reservoirs that change the flow of water, may also require channel modification.

Channel modifications can cause a multitude of problems. If not carefully designed they can cause severe erosion and bank stability problems and actually increase flood hazards. Environmental quality impacts should also be carefully weighed. All the types of channel improvements discussed will damage or eliminate fish and wildlife habitat, and degrade water quality.

Watershed Treatment

Watershed treatment involves certain measures that increase infiltration, make the soil more capable of retaining excessive rainfall, and delay runoff. These measures include improving or preserving vegetative cover, regrading, or terracing. Watershed improvements will reduce erosion, maintain or improve ground water levels, and recharge aquifers.

Nonstructural Measures

These measures concentrate on controlling activities that take place in floodplain areas. Nonstructural measures also provide incentives to avoid development in the floodplain, and encourage the reduction of development's vulnerability to flood damage. Nonstructural measures include floodplain regulation, zoning, building code/subdivision regulations, stormwater management, acquisition and relocation, development policy, tax incentives, floodproofing, information and education, flood forecasting and warning, and emergency preparedness. The measures not previously covered in the guidebook are discussed in this Chapter.

Zoning

A community's zoning authority can be used to discourage development in the floodplain. For example, flood-prone areas could be zoned "agricultural", "open space", or "recreation". Generally, these types of development suffer less flood damages than residential or commercial areas. Another zoning tactic is to control the density of structures by limiting lot sizes. Zoning ordinances can prevent the expansion of nonconforming uses and they could incorporate a single loss option. This stipulation would mean that a property could not be rebuilt after a flood loss of sufficient magnitude (i.e., 50% or more).

Building Codes/Subdivision Regulations

Generally, these codes apply uniformly to buildings throughout a locality; however, certain provisions are also included that relate to natural hazards. Generally, four types of construction standards have been incorporated into flood related building codes:

- Minimum protection elevations for the lowest floor or footings of a structure.
- Prohibition of basements.
- Structural reinforcement, waterproofing, or other protection requirements for structures with floors below the flood protection elevation.
- Firmly anchored buildings required to prevent flotation during floods.

Subdivision standards related to flooding typically require that lots are adequately elevated with proper drainage, and that public facilities are protected from flooding.

Stormwater Management

Urban development can cause increased runoff in downstream areas. You don't have to be in a floodplain to have stormwater flooding problems. Native vegetation, croplands, wetlands, and pastures are being replaced by parking lots, streets, and buildings. Natural drainageways are replaced by storm sewers and culverts. These changes to a watershed can increase stormwater runoff that can cause larger and more frequent floods. A good stormwater management program is designed to reduce existing runoff problems and prevent new ones from developing. This is accomplished by controlling stormwater where it falls, on-site, through site grading, vegetation areas, temporary storage, and other measures.

Acquisition and Relocation

This approach is expensive but is a permanent solution in areas that experience frequent flooding. Tulsa, Oklahoma undertook a massive acquisition and relocation program in an area that experienced several disastrous floods. They found people were willing to relocate right after a flood and that public support for funding was high after a disastrous event.

Development Policy

Communities can deter floodplain development by adopting policies to prevent construction of public facilities such as streets, waterlines, and sewers in floodplain areas. Public facilities such as recreation areas or open spaces could be extended into flood-prone areas. Both of these policies can result in a reduced flood damage potential.

Tax Incentives

Tax adjustments for land dedicated to agriculture, recreation, conservation, or other open-spaced uses may be effective in preserving existing floodplains. Unless such concessions are made, flood-prone land adjacent to communities will become more valuable each year as residential or commercial developments expand. This could cause taxes of all adjacent open land to rise to the point where the land no longer can be used profitably for farming or other open uses.

Information and Education

A good information and education program is a prerequisite for successful flood hazard mitigation plans. Local residents who are knowledgeable about flooding and flood hazards are more likely to make wise decisions when it comes to protecting themselves and their property from flood damage.

A community should have a continuous public awareness campaign about flooding to increase and reinforce public knowledge of flood hazards. Public media such as radio, television, and newspapers can be used to convey the message to the public. Presentations could be made to civic organizations or church groups and their help solicited to disseminate information. Educational materials on flooding and floodplain management can be made available to public schools to be included in their curriculum. Messages can be included in utility bills, tax statements, newspaper deliveries, or printed on grocery bags. Warning signs could be posted on public rights-of-way warning potential property buyers of a flood hazard or indicating the high water mark of past floods.

Flood Forecasting and Warning

Reliable and accurate forecasts and warnings of floods can be coupled with timely evacuation to save lives and reduce property losses. While the federal government (through the National Weather Service) is generally responsible for disaster prediction, it is the local government that must be sure the general public is warned in sufficient time to take protective action. Well-organized systems to effectively disseminate flood warning information need to be established by communities in cooperation with the County Disaster and Emergency Services Coordinator.

Emergency Preparedness

When a flood is imminent, a community can go a long way in reducing or preventing damages by having an effective emergency operation plan ready for implementation. Emergency flood fighting can involve a variety of activities including evacuation of floodplain residents, installation of temporary pumping stations for interior drainage behind levees, and sandbag closures for openings in levees or low areas. A well-coordinated flood fight would require a sophisticated flood response and recovery plan defining the responsibilities of various departments within the local unit of government, as well as support from various federal, state, and private agencies. Equipment and materials necessary for the flood fight effort must be stockpiled in the community or be immediately accessible to the community.

Post-flood Recovery Opportunities

After a flood, emphasis is put on returning things to the way they were before the flood. During this time communities should proceed cautiously with repair and reconstruction. This is an ideal time to look for opportunities to reduce future flood damages. For example, if a school or other public facility was flood damaged, now is a good time to install some floodproofing devices rather than rebuilding the structure to the way it was before the flood. This time is also ideal to explore the possibility for relocating severely damaged structures to flood-free locations.

CHAPTER VI:
FLOODPLAIN LAWS RULES, and REGULATIONS

MONTANA CODE ANNOTATED

Adopted by Chapter 1, Laws of 1979

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Title 76

Chapter 5
Floodplain and Floodway Management

Parts 1, 2, 3 & 4

CHAPTER 5

FLOODPLAIN AND FLOODWAY MANAGEMENT

Part 1 — General Provisions

76-5-101. Findings.
76-5-102. Policy and purposes.
76-5-103. Definitions.
76-5-104. Presumption that depression is watercourse.
76-5-105. Authority to enter and investigate lands or waters.
76-5-106. Exemption for small drainage area.
76-5-107. Federal supremacy.
76-5-108. Permit construed as added requirement.
76-5-109. Other legal remedies preserved — immunity.
76-5-110. Penalties for violation.

Part 2 — Role of State Agencies

76-5-201. Program for delineation of floodplains and floodways.
76-5-202. Designation of floodplains and floodways.
76-5-203. Alteration of floodplains or floodways.
76-5-204. What constitutes notice.
76-5-205. Furnishing of material to local governments.
76-5-206. Powers and duties of department relative to obstructions.
76-5-207. Floodway obstruction removal fund.
76-5-208. Orders and rules.
76-5-209. Appeal from board order.

Part 3 — Role of Local Government

76-5-301. Land use regulations.
76-5-302. Substitution of local control for state permit system.

Part 4 — Use of Floodplains and Floodways

76-5-401. Permissible open-space uses.
76-5-402. Permissible uses within floodplain but outside of floodway.
76-5-403. Prohibited uses within floodway.
76-5-404. Artificial obstructions and nonconforming uses.
76-5-405. Variance for obstruction or nonconforming use.
76-5-406. Criteria to be considered in connection with variance request.

Parts 5 through 10 reserved

Part 11 — Water Conservation and Flood Control Projects

76-5-1101. Water conservation and flood control projects authorized.
76-5-1102. Types of projects.
76-5-1103. Water conservation and flood control activities declared public purpose.
76-5-1104. Construction of part.
76-5-1105. Division of work into parts.
76-5-1106. Requirements to change project boundaries.
76-5-1107. Direction and construction responsibility of state or federal government — local role.
76-5-1108. Acquisition of property.
76-5-1109. Contracts for use of railroads and highways.
76-5-1110. Cooperation with governmental, public, and private agencies.
76-5-1111. Apportionment of costs.
76-5-1112. Sources of funds for cost of acquiring right-of-way and other costs.
76-5-1113. Special assessments for operation and maintenance authorized.
76-5-1114. Determination of assessment.
76-5-1115. Fees and charges authorized.
76-5-1116. Determination of fees and charges.
76-5-1117. Bonds authorized — procedure.

Chapter Cross-References

Water rights, Art. IX, sec. 3, Mont. Const.

Flood control by water and sewer districts, 7-13-2218.

Flood Control Act of 1954 — distribution of revenues to counties, 17-3-231, 17-3-232.

Easements relating to flooding, 70-17-101.

Application of the Natural Streambed and Land Preservation Act of 1975, 75-7-105.

Water development program — flood control, 85-1-602.

Flood control by conservancy districts, 85-9-102.

Part 1

General Provisions

76-5-101. Findings. The people of the state of Montana find that:

(1) recurrent flooding of a portion of the state's land resources causes loss of life, damage to property, disruption of commerce and governmental services, and unsanitary conditions; all of which are detrimental to the health, safety, welfare, and property of the occupants of flooded lands and the people of this state; and

(2) the public interest necessitates management and regulation of flood-prone lands and waters in a manner consistent with sound land and water use management practices which will prevent and alleviate flooding threats to life and health and reduce private and public economic losses.

History: En. Sec. 1, Ch. 393, L. 1971; R.C.M. 1947, 89-3501.

76-5-102. Policy and purposes. (1) The policy and purposes of parts 1 through 4 of this chapter are to:

(a) guide development of the floodway areas of this state consistent with the enumerated findings;

(b) recognize the right and need of watercourses to periodically carry more than the normal flow of water;

(c) provide state coordination and technical assistance to local units in management of floodway areas;

(d) coordinate federal, state, and local management activities for floodway areas;

(e) encourage local governmental units to manage flood-prone lands, including the adoption, enforcement, and administration of land use regulations; and

(f) provide the department of natural resources and conservation with authority necessary to carry out a comprehensive floodway management program for the state.

(2) Specifically, it is the purpose of parts 1 through 4 to:

(a) restrict or prohibit uses which are dangerous to health or safety of property in times of flood or cause increased flood heights or velocities;

(b) require that uses vulnerable to floods, including public facilities which serve such uses, be provided with flood protection at the time of initial construction;

(c) develop and provide information to identify lands which are unsuited for certain development purposes because of flood hazard;

(d) distinguish between the land use regulations applied to the designated floodway and those applied to that portion of the designated floodplain not contained within the designated floodway;

(e) apply more restrictive land use regulations within the designated floodway;

(f) ensure that regulations and minimum standards adopted under parts 1 through 4, insofar as possible, balance the greatest public good with the least private injury.

History: En. Sec. 2, Ch. 393, L. 1971; amd. Sec. 194, Ch. 253, L. 1974; amd. Sec. 1, Ch. 271, L. 1974; R.C.M. 1947, 89-3502.

76-5-103. Definitions. As used in parts 1 through 4 of this chapter, unless the context otherwise requires, the following definitions apply:

(1) "Artificial obstruction" means any obstruction which is not a natural obstruction and includes any dam, wall, riprap, embankment, levee, dike, pile, abutment, projection, revetment, excavation, channel rectification, bridge, conduit, culvert, building, refuse, automobile body, fill, or other analogous structure or matter in, along, across, or projecting into any floodplain or floodway which may impede, retard, or change the direction of the flow of water, either in itself or by catching or collecting debris carried by the water, or that is placed where the natural flow of the water would carry the same downstream to the damage or detriment of either life or property.

(2) "Board" means the board of natural resources and conservation provided for in 2-15-3302.

(3) "Channel" means the geographical area within either the natural or artificial banks of a watercourse or drainway.

(4) "Department" means the department of natural resources and conservation provided for in Title 2, chapter 15, part 33.

(5) "Designated floodplain" means a floodplain whose limits have been designated and established by order of the board.

(6) "Designated floodway" means a floodway whose limits have been designated and established by order of the board.

(7) "Drainway" means any depression 2 feet or more below the surrounding land serving to give direction to a current of water less than 9 months of the year and having a bed and well-defined banks.

(8) "Establish" means construct, place, insert, or excavate.

(9) "Flood" means the water of any watercourse or drainway which is above the bank or outside the channel and banks of such watercourse or drainway.

(10) "Flood of 100-year frequency" means a flood magnitude expected to recur on the average of once every 100 years or a flood magnitude which has a 1% chance of occurring in any given year.

(11) "Floodplain" means the area adjoining the watercourse or drainway which would be covered by the floodwater of a flood of 100-year frequency, except for sheetflood areas that receive less than 1 foot of water per occurrence and are considered "zone B" by the federal emergency management agency.

(12) "Floodway" means the channel of a watercourse or drainway and those portions of the floodplain adjoining the channel which are reasonably required to carry and discharge the floodwater of any watercourse or drainway.

(13) "Natural obstruction" means any rock, tree, gravel, or analogous natural matter that is an obstruction and has been located within the floodplain or floodway by a nonhuman cause.

(14) "Owner" means any person who has dominion over, control of, or title to an obstruction.

(15) "Political subdivision" means any incorporated city or town or any county organized and having authority to adopt and enforce land use regulations.

(16) "Responsible political subdivision" means a political subdivision that has enacted land use regulations in accordance with parts 1 through 4.

(17) "Watercourse" means any depression 2 feet or more below the surrounding land serving to give direction to a current of water at least 9 months of the year and having a bed and well-defined banks; provided that it shall, upon order of the board, also include any particular depression which would not otherwise be within the definition of watercourse.

History: En. Sec. 3, Ch. 393, L. 1971; amd. Sec. 1, Ch. 294, L. 1973; amd. Sec. 195, Ch. 253, L. 1974; amd. Sec. 2, Ch. 271, L. 1974; R.C.M. 1947, 89-3503(part); amd. Sec. 1, Ch. 428, L. 1981.

76-5-104. Presumption that depression is watercourse. In the event of doubt as to whether a depression is a watercourse or drainway, it shall be presumed to be a watercourse.

History: En. Sec. 3, Ch. 393, L. 1971; amd. Sec. 1, Ch. 294, L. 1973; amd. Sec. 195, Ch. 253, L. 1974; amd. Sec. 2, Ch. 271, L. 1974; R.C.M. 1947, 89-3503(part).

76-5-105. Authority to enter and investigate lands or waters. (1) The department or the responsible political subdivision may make reasonable entry upon any lands and waters in the state for the purpose of making an investigation, survey, removal, or repair contemplated by parts 1 through 4 of this chapter. Unless written consent is obtained, however, the department or the responsible political subdivision shall provide written notice of its entry by personal delivery to the owner, owner's agent, lessee, or lessee's agent whose lands will be entered. If none of these persons can be found, the department or the responsible political subdivision shall affix a copy of the notice to one or more conspicuous places on the property.

(2) An investigation of a natural or artificial obstruction or nonconforming use shall be made by the department or the responsible political subdivision either on its own initiative, on the written request of three titleholders of land abutting the watercourse or drainway involved, or on the written request of a political subdivision. Upon the request of an owner, owner's agent, lessee, or lessee's agent whose lands will be entered to undertake the investigation, the department or the responsible political subdivision shall release the names and addresses of the persons or political subdivision requesting the investigation.

History: En. Sec. 9, Ch. 393, L. 1971; amd. Sec. 201, Ch. 253, L. 1974; amd. Sec. 8, Ch. 271, L. 1974; R.C.M. 1947, 89-3509; amd. Sec. 1, Ch. 382, L. 1985.

76-5-106. Exemption for small drainage area. Parts 1 through 4 of this chapter shall not extend to any obstruction in the floodplain or floodway of a watercourse or drainway where the drainage area above the same, either within or without the state, is less than 25 square miles in extent unless a particular watercourse or drainway is expressly declared to be within the coverage of parts 1 through 4 by order of the board.

History: En. Sec. 10, Ch. 393, L. 1971; amd. Sec. 9, Ch. 271, L. 1974; R.C.M. 1947, 89-3510.

76-5-107. Federal supremacy. Parts 1 through 4 do not interfere with the right of the United States to regulate interstate commerce or the navigable waters of the United States.

History: En. Sec. 14, Ch. 393, L. 1971; amd. Sec. 204, Ch. 253, L. 1974; amd. Sec. 11, Ch. 271, L. 1974; amd. Sec. 4, Ch. 73, L. 1977; R.C.M. 1947, 89-3514(part).

76-5-108. Permit construed as added requirement. The granting of a permit under parts 1 through 4 of this chapter does not affect any other type of approval required by any other statute or ordinance of the state, of any political subdivision, or of the United States but is an added requirement.

History: En. Sec. 14, Ch. 393, L. 1971; amd. Sec. 204, Ch. 253, L. 1974; amd. Sec. 11, Ch. 271, L. 1974; amd. Sec. 4, Ch. 73, L. 1977; R.C.M. 1947, 89-3514(part).

76-5-109. Other legal remedies preserved — immunity. (1) The grant or denial of a permit does not have an effect on a remedy of a person at law or in equity.

(2) Where it is shown that there is a wrongful failure to comply with parts 1 through 4 of this chapter, there is a rebuttable presumption that the obstruction was the proximate cause of the flooding of the land of a person bringing suit.

(3) The use of any one of the remedies or powers given to the board or the department in parts 1 through 4 is not a bar to the exercise of any other remedy or power given by parts 1 through 4.

(4) An action for damages sustained because of injury caused by an obstruction for which a permit has been granted under parts 1 through 4 may not be brought against the state, the board, a member of the board, or the department.

History: (1), (2), (4)En. Sec. 14, Ch. 393, L. 1971; amd. Sec. 204, Ch. 253, L. 1974; amd. Sec. 11, Ch. 271, L. 1974; amd. Sec. 4, Ch. 73, L. 1977; Sec. 89-3514, R.C.M. 1947; (3)En. Sec. 15, Ch. 393, L. 1971; amd. Sec. 205, Ch. 253, L. 1974; Sec. 89-3515, R.C.M. 1947; R.C.M. 1947, 89-3514(part), 89-3515.

76-5-110. Penalties for violation. Any person who violates 76-5-401 through 76-5-404 shall be guilty of a misdemeanor and shall upon conviction thereof be fined not more than $100 or be imprisoned in the county jail for not more than 10 days or be both so fined and imprisoned. Each day's continuance of a violation shall be deemed a separate and distinct offense.

History: En. Sec. 13, Ch. 393, L. 1971; R.C.M. 1947, 89-3513.

Part 2

Role of State Agencies

76-5-201. Program for delineation of floodplains and floodways. (1) The department shall initiate a comprehensive program for the delineation of designated floodplains and designated floodways for every watercourse and drainway in the state. It shall make a study relating to the acquiring of flood data and may enter into arrangements with the United States geological survey, the United States army corps of engineers, or any other state or federal agency for such acquisition.

(2) Before the board establishes by order a designated floodplain or a designated floodway, the department shall consult with the affected political subdivisions. Consultation shall include but not be limited to the following:

(a) specifically requesting that the political subdivisions submit pertinent data concerning flood hazards, including flooding experiences, plans to avoid potential hazards, estimates of economic impacts of flooding on the community, both historical and prospective, and such other data as considered appropriate;

(b) notifying local officials, including members of the county commission, city council, and planning board, of the progress of surveys, studies, and investigations and of proposed findings, along with information concerning data and methods employed in reaching such conclusions; and

(c) encouraging local dissemination of information concerning surveys, studies, and investigations so that interested persons will have an opportunity to bring relevant data to the attention of the department.

History: En. Sec. 4, Ch. 393, L. 1971; amd. Sec. 2, Ch. 294, L. 1973; amd. Sec. 196, Ch. 253, L. 1974; amd. Sec. 3, Ch. 271, L. 1974; amd. Sec. 1, Ch. 262, L. 1977; R.C.M. 1947, 89-3504(1).

76-5-202. Designation of floodplains and floodways. (1) When sufficient data has been acquired by the department, the board shall establish, by order after a public hearing, the designated floodplain within which a political subdivision may establish land use regulation.

(2) When sufficient data has been acquired, the board shall establish, by order after a public hearing, the designated floodway within which a political subdivision may establish land use regulation.

(3) These designations shall be based upon reasonable hydrological certainty. Designations made according to a flood hazard boundary map prepared by the federal emergency management agency have a rebuttable presumption of reasonable hydrological certainty.

(4) The department shall record all designated floodplains or designated floodways established by the board in the office of the county clerk and recorder of each county in which those floodplains or floodways are found.

History: En. Sec. 4, Ch. 393, L. 1971; amd. Sec. 2, Ch. 294, L. 1973; amd. Sec. 196, Ch. 253, L. 1974; amd. Sec. 3, Ch. 271, L. 1974; amd. Sec. 1, Ch. 262, L. 1977; R.C.M. 1947, 89-3504(part); amd. Sec. 1, Ch. 160, L. 1987.

Compiler's Comments

1987 Amendment: In (3) inserted second sentence.

76-5-203. Alteration of floodplains or floodways. The board may alter the floodplains or floodways at any later time, by order after a public hearing, if a reevaluation of the then available flood data warrants it.

History: En. Sec. 4, Ch. 393, L. 1971; amd. Sec. 2, Ch. 294, L. 1973; amd. Sec. 196, Ch. 253, L. 1974; amd. Sec. 3, Ch. 271, L. 1974; amd. Sec. 1, Ch. 262, L. 1977; R.C.M. 1947, 89-3504(part).

76-5-204. What constitutes notice. Notice of a hearing or order of the board establishing or altering the floodplains or floodways shall be given by publishing the notice once each week for 3 consecutive weeks in a legal newspaper published or of general circulation in the area involved, the last publication of which shall be not less than 10 days prior to the date set for the hearing or the effective date of the order.

History: En. Sec. 4, Ch. 393, L. 1971; amd. Sec. 2, Ch. 294, L. 1973; amd. Sec. 196, Ch. 253, L. 1974; amd. Sec. 3, Ch. 271, L. 1974; amd. Sec. 1, Ch. 262, L. 1977; R.C.M. 1947, 89-3504(part).

76-5-205. Furnishing of material to local governments. (1) When the designated floodplain or the designated floodway has been established, the department shall furnish this data to officials of the political subdivision having jurisdiction over those areas, together with a map outlining the areas involved, a copy of parts 1 through 4 of this chapter, adopted rules of the board, and suggested minimum standards adopted by the board.

(2) These standards and rules shall reflect gradations in flood hazard based on criteria as outlined in 76-5-406. In adopting these standards and rules, the board shall consider local input from the affected political subdivisions.

History: En. Sec. 4, Ch. 393, L. 1971; amd. Sec. 2, Ch. 294, L. 1973; amd. Sec. 196, Ch. 253, L. 1974; amd. Sec. 3, Ch. 271, L. 1974; amd. Sec. 1, Ch. 262, L. 1977; R.C.M. 1947, 89-3504(part).

76-5-206. Powers and duties of department relative to obstructions. (1) Where an obstruction to a designated floodway established under 76-5-202 through 76-5-205 has been created by fallen trees, silt, debris, wreckage, unanchored automobile bodies, and like matter, the department may, in its discretion, remove the obstruction, in which case the cost of removal shall be borne by the department.

(2) Where, after investigation, notice, and hearing, an order has been issued by the board to the owner of an obstruction not exempt under 76-5-401 through 76-5-404 for its removal or repair and the order is not complied with within such reasonable time as may be prescribed or if the owner cannot be found or determined, the department may make or cause the removal or repairs to be made, the cost of which shall be borne by the owner and shall be recoverable in the same manner as debts are now recoverable by law.

History: En. Sec. 8, Ch. 393, L. 1971; amd. Sec. 5, Ch. 294, L. 1973; amd. Sec. 200, Ch. 253, L. 974; amd. Sec. 7, Ch. 271, L. 1974; R.C.M. 1947, 89-3508.

76-5-207. Floodway obstruction removal fund. The state treasurer shall establish the floodway obstruction removal fund and credit to the fund for the removal of obstructions as provided in 76-5-206(1) such money specifically appropriated by the legislature. The department may allocate money from the floodway obstruction removal fund for purposes provided in 76-5-206(1).

History: En. Sec. 12, Ch. 393, L. 1971; amd. Sec. 203, Ch. 253, L. 1974; R.C.M. 1947, 89-3512.

76-5-208. Orders and rules. (1) The board may adopt such orders and rules as are necessary to implement parts 1 through 4 of this chapter. All orders and rules adopted by the board shall be on file at the offices of the department and in the office of the county clerk and recorder of each county affected by the order or rule.

(2) If an order is issued to the owner of an artificial obstruction or nonconforming use not exempt under 76-5-401 through 76-5-404 for its removal or repair, the order shall not become effective less than 10 days after a hearing is held relating to the order.

(3) In addition to any requirement imposed by 76-5-202 through 76-5-205, where an order is issued which affects with particularity the land adjacent to a watercourse or drainway, notice of the contents of the order and of any required hearing shall be mailed by the department to the titleholder of the land not less than 10 days before the effective date of the order or, if there is a required hearing, to the titleholder of the land and to the owner of the artificial obstruction or nonconforming use not less than 10 days before the date of the hearing. However, the notice need not be given to the owner of

the artificial obstruction or nonconforming use for an order issued pursuant to 76-5-206(2) if the owner cannot be found or determined.

History: **En. Sec. 11, Ch. 393, L. 1971; amd. Sec. 202, Ch. 253, L. 1974; amd. Sec. 10, Ch. 271, L. 1974; R.C.M. 1947, 89-3511(part).**

Cross-References

Adoption and publication of rules under Montana Administrative Procedure Act, Title 2, ch. 4, part 3.

76-5-209. Appeal from board order. (1) A person aggrieved by any order of the board issued under parts 1 through 4 of this chapter may appeal from the order to a court of competent jurisdiction within 30 days after its effective date. Service of notice of the appeal shall be made upon the department.

(2) If an appeal is taken, enforcement of the order shall be stayed pending the outcome of the appeal.

History: **En. Sec. 11, Ch. 393, L. 1971; amd. Sec. 202, Ch. 253, L. 1974; amd. Sec. 10, Ch. 271, L. 1974; R.C.M. 1947, 89-3511(part).**

Cross-References

Contested cases under Montana Administrative Procedure Act, Title 2, ch. 4, part 6.

Part 3

Role of Local Government

Part Cross-References

Flood Control Act of 1954 — distribution of revenue to counties, 17-3-231, 17-3-232.

76-5-301. Land use regulations. (1) Upon transmittal of the floodplain information to officials of a political subdivision, the political subdivision has 6 months from the date of transmittal to adopt land use regulations which meet or exceed the minimum standards of the board. Such regulations may include, for the purposes of floodplain management only, floodplain management regulations within sheetflood areas as determined by the federal emergency management agency.

(2) If within the 6-month period the political subdivision has failed to adopt the land use regulations, the department shall enforce the minimum standards within the designated floodplain or the designated floodway as established by the board under 76-5-202 through 76-5-205, and no artificial obstruction or nonconforming use may be established by any person within the designated floodplain or the designated floodway unless specifically authorized by the board.

(3) A political subdivision which has failed to adopt land use regulations which meet or exceed the minimum standards of the board within the 6-month period may subsequently adopt such regulations, and if approved by the board, they shall be effective within the designated floodplain or floodway and administered and enforced by the political subdivision.

(4) When necessary for compliance with federal flood insurance requirements, the board may shorten the 6-month period upon notification to the

political subdivision and publication of a notice thereof in a newspaper of general circulation in the affected area once a week for 3 consecutive weeks.

History: En. Sec. 4, Ch. 393, L. 1971; amd. Sec. 2, Ch. 294, L. 1973; amd. Sec. 196, Ch. 253, L. 1974; amd. Sec. 3, Ch. 271, L. 1974; amd. Sec. 1, Ch. 262, L. 1977; R.C.M. 1947, 89-3504(3) thru (5); amd. Sec. 1, Ch. 74, L. 1983.

Cross-References

Master plan notation of flood control measures, 76-1-601.

76-5-302. Substitution of local control for state permit system. (1) If a political subdivision enacts, in harmony with the purposes of parts 1 through 4 of this chapter, permit issuance ordinances, regulations, or resolutions and land use ordinances, regulations, or resolutions which meet or exceed the minimum standards of the board and if the administrative and enforcement procedures established for those ordinances, regulations, or resolutions are found acceptable by the board, no permit from the department is required.

(2) However, if the board determines that there is a failure by a political subdivision to comply with the intent, purposes, and provisions of parts 1 through 4 and the minimum standards adopted thereunder, the powers of the political subdivision may be suspended after hearing and the minimum standards adopted by the board shall be enforced by the department until such time as the board determines that the political subdivision will comply.

History: En. Sec. 14, Ch. 393, L. 1971; amd. Sec. 204, Ch. 253, L. 1974; amd. Sec. 11, Ch. 271, L. 1974; amd. Sec. 4, Ch. 73, L. 1977; R.C.M. 1947, 89-3514(part).

Part 4

Use of Floodplains and Floodways

Part Cross-References

Easements relating to flooding, 70-17-101.

76-5-401. Permissible open-space uses. The following open-space uses shall be permitted within the designated floodway to the extent that they are not prohibited by any other ordinance or statute and provided they do not require structures other than portable structures, fill, or permanent storage of materials or equipment:

(1) agricultural uses;

(2) industrial-commercial uses such as loading areas, parking areas, or emergency landing strips;

(3) private and public recreational uses such as golf courses, tennis courts, driving ranges, archery ranges, picnic grounds, boat launching ramps, swimming areas, parks, wildlife management and natural areas, game farms, fish hatcheries, shooting preserves, target ranges, trap and skeet ranges, hunting and fishing areas, or hiking and horseback riding trails;

(4) forestry, including processing of forest products with portable equipment;

(5) residential uses such as lawns, gardens, parking areas, and play areas;

(6) excavations subject to the issuance of a permit under 76-5-405 and 76-5-406.

History: En. Sec. 6, Ch. 393, L. 1971; amd. Sec. 4, Ch. 294, L. 1973; amd. Sec. 198, Ch. 253, L. 1974; amd. Sec. 5, Ch. 271, L. 1974; R.C.M. 1947, 89-3506(2).

Cross-References

Recreational use of flood control channel prohibited, 23-2-301, 23-2-302.

76-5-402. Permissible uses within floodplain but outside of floodway. Permits shall be granted for the following uses within that portion of the floodplain not contained within the designated floodway to the extent that they are not prohibited by any other ordinance, regulation, or statute:

(1) any use permitted in the designated floodway;

(2) structures, including but not limited to residential, commercial, and industrial structures, provided that:

(a) such structures meet the minimum standards adopted by the board;

(b) residential structures are constructed on fill such that the lowest floor elevation (including basements) is 2 feet above the 100-year flood elevation;

(c) commercial and industrial structures are either constructed on fill as specified in subsection (b) or are adequately floodproofed up to an elevation no lower than 2 feet above the 100-year flood elevation. Such floodproofing shall be in accordance with the minimum standards adopted by the board.

History: En. Sec. 6, Ch. 393, L. 1971; amd. Sec. 4, Ch. 294, L. 1973; amd. Sec. 198, Ch. 253, L. 1974; amd. Sec. 5, Ch. 271, L. 1974; R.C.M. 1947, 89-3506(3).

76-5-403. Prohibited uses within floodway. The following nonconforming uses shall be prohibited within the designated floodway:

(1) a building for living purposes or place of assembly or permanent use by human beings;

(2) a structure or excavation that will cause water to be diverted from the established floodway, cause erosion, obstruct the natural flow of water, or reduce the carrying capacity of the floodway;

(3) the construction or permanent storage of an object subject to flotation or movement during flood level periods.

History: En. Sec. 6, Ch. 393, L. 1971; amd. Sec. 4, Ch. 294, L. 1973; amd. Sec. 198, Ch. 253, L. 1974; amd. Sec. 5, Ch. 271, L. 1974; R.C.M. 1947, 89-3506(4).

Cross-References

Recreational use of flood control channel prohibited, 23-2-301, 23-2-302.

76-5-404. Artificial obstructions and nonconforming uses. (1) An artificial obstruction or nonconforming use in a designated floodplain or designated floodway enforced under 76-5-301 (1) and (2) and not exempt under subsections (2) or (3) of this section or 76-5-401 through 76-5-403 is a public nuisance unless a permit has been obtained for such artificial obstruction or nonconforming use from the department or the responsible political subdivision.

(2) It is unlawful for a person to establish an artificial obstruction or nonconforming use within a designated floodplain or a designated floodway without a permit from the department or the responsible political subdivision.

(3) (a) Parts 1 through 4 of this chapter do not affect any existing artificial obstruction or nonconforming use established in the designated floodplain or designated floodway before the land use regulations adopted by the political subdivision are effective or before the board has enforced a designated floodplain or a designated floodway under 76-5-301 (1) and (2).

(b) However, a person may not make nor may an owner allow alterations of an artificial obstruction or nonconforming use within a designated floodplain or a designated floodway whether the obstruction proposed for alteration was located in the floodplain or floodway before or after July 1, 1971, except upon express written approval of the department or the responsible political subdivision. Maintenance of an obstruction is not an alteration.

History: En. Secs. 5, 6, Ch. 393, L. 1971; amd. Secs. 3, 4, Ch. 294, L. 1973; amd. Secs. 197, 198, Ch. 253, L. 1974; amd. Secs. 4, 5, Ch. 271, L. 1974; R.C.M. 1947, 89-3505, 89-3506(1).

76-5-405. Variance for obstruction or nonconforming use. (1) The department or the responsible political subdivision may issue permits for the establishment or alteration of artificial obstructions and nonconforming uses which would otherwise violate 76-5-401 through 76-5-404. The application for the permit shall be submitted to the department or the responsible political subdivision and contain such information as the department requires, including complete maps, plans, profiles, and specifications of the obstruction or use and watercourse or drainway.

(2) Permits for obstructions or uses to be established in the designated floodplain or designated floodway of watercourses must be specifically approved or denied within a reasonable time by the department or the responsible political subdivision. Permits for obstructions or uses in the designated floodplains or designated floodways shall be conclusively deemed to have been granted 60 days after the receipt of the application by the department or the responsible political subdivision or after such time as the board or the responsible political subdivision shall specify, unless the department or the responsible political subdivision notifies the applicant that the permit is denied. The responsible political subdivision shall send to the department a copy of each permit granted pursuant to this section and 76-5-406.

(3) An application for a permit shall be accompanied by a nonrefundable application fee of $10 which the state treasurer shall credit to the floodway obstruction removal fund.

(4) The department or the responsible political subdivision may make a part of the permit any reasonable conditions it may consider advisable. In order for the permit to continue to remain in force, the obstruction or use must be maintained so as to comply with the conditions and specifications of the permit.

History: En. Sec. 7, Ch. 393, L. 1971; amd. Sec. 199, Ch. 253, L. 1974; amd. Sec. 6, Ch. 271, L. 1974; R.C.M. 1947, 89-3507(part).

76-5-406. Criteria to be considered in connection with variance request. In passing upon the application, the department or the responsible political subdivision shall consider in accordance with the minimum standards established by the board:

(1) the danger to life and property by water which may be backed up or diverted by the obstruction or use;

(2) the danger that the obstruction or use will be swept downstream to the injury of others;

(3) the availability of alternate locations;

(4) the construction or alteration of the obstruction or use in such a manner as to lessen the danger;

(5) the permanence of the obstruction or use;

(6) the anticipated development in the foreseeable future of the area which may be affected by the obstruction or use; and

(7) such other factors as are in harmony with the purpose of parts 1 through 4 of this chapter.

History: En. Sec. 7, Ch. 393, L. 1971; amd. Sec. 199, Ch. 253, L. 1974; amd. Sec. 6, Ch. 271, L. 1974; R.C.M. 1947, 89-3507(part).

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

CHAPTER 15

FLOODPLAIN MANAGEMENT
ENGINEERING BUREAU

Sub-Chapter 1

Definitions

Rule 36.15.101 Definitions

Sub-Chapter 2

Regulation and Enforcement

Rule 36.15.201 Local Regulation and Enforcement

36.15.202 Board Approval of Local Regulations and Enforcement

36.15.203 Time Limit for Adoption of Local Regulations

36.15.204 Local Regulations - Requirements

Rules 36.15.205 through 36.15.208 Reserved

36.15.209 Department Regulation and Enforcement

36.15.210 Environmental Impact Statements

Rules 36.15.211 through 36.15.215 Reserved

36.15.216 Permits - Criteria - Time Limits

36.15.217 Waiver of Permit for Emergency Repair or Replacement

Sub-Chapters 3 and 4 Reserved

Sub-Chapter 5

Floodplain and Floodway Delineations

Rule 36.15.501 Floodplain and Floodway Delineation - Data Used - Hydrological Certainty

36.15.502 Floodway Delineation

36.15.503 Public Input on Proposed Designed Floodplains or Floodways

Rule 36.15.504 Local Government Adjustments to Proposed Floodway Delineation

Sub-Chapter 6

Designated Floodway Minimum Standards

Rule 36.15.601 Uses Allowed Without Permits

36.15.602 Uses Requiring Permits

36.15.603 Permits For Water Diversions

36.15.604 Minimum Criteria for Permits

36.15.605 Prohibited Uses

36.15.606 Permits for Flood Control Work

Sub-Chapter 7

Flood Fringe Minimum Standards

Rule 36.15.701 Allowed Uses

36.15.702 Flood Proofing for Commercial and Industrial Structures

36.15.703 Prohibited Uses

Sub-Chapter 8

Designated Floodplain Only Minimum Standards

Rule 36.15.801 Allowed Uses Where Floodway Not Designated or No Flood Elevations

Sub-Chapter 9

Flood Proofing Requirements

Rule 36.15.901 Flood Proofing Requirements for Electrical Systems

36.15.902 Flood Proofing Requirements for Heating Systems

36.15.903 Flood Proofing Requirements for Plumbing Systems

NEXT PAGE IS 36-275

Sub-Chapter 1

Definitions

36.15.101 DEFINITIONS In addition to the definition of terms contained in Section 76-5-103, MCA, and unless the context requires otherwise, as used in the Act and in this chapter:

(1) "Act" means Title 76, Chapter 5, MCA, as amended.

(2) "Alteration" means any change or addition to an artificial obstruction that either increases the size of the artificial obstruction or increases its potential flood hazard. Maintenance of an artificial obstruction is not an alteration. However, the repair, reconstruction, or improvement of an artificial obstruction, the cost of which equals or exceeds 50 percent of the actual cash value of the artificial obstruction either (a) before the improvement is started, or (b) if the artificial obstruction has been damaged and is being restored, before the damage occurred, is an alternation and not maintenance.

(3) "Channelization project" means the excavation and construction of an artificial channel for the purpose of diverting the entire flow of a watercourse or drainway from its established course.

(4) "Flood fringe" means that portion of a designated floodplain outside the limits of a designated floodway.

(5) "Floodplain," as defined by Section 76-5-103(11), MCA, means "the area adjoining the watercourse or drainway which would be covered by the floodwater of a flood of 100-year frequency.

(6) "Floodway," as defined by Section 76-5-103(12), MCA, means "the channel of a watercourse or drainway and those portions of the floodplain adjoining the channel which are reasonably required to carry and discharge the floodwater of any watercourse or drainway.

(7) "Permit issuing authority" means the responsible political subdivision, if any, or the Department if there is no responsible political subdivision.

(8) "Responsible political subdivision" means a political subdivision that has received Board approval of its adopted land use regulations and enforcement procedures in accordance with Section 76-5-302, MCA, and ARM 36.15.201 through 36.15.204.

(9) "Riprap" means stone, rock, concrete block, or analogous material that is placed along the banks or bed of a watercourse or drainway for the purpose of alleviating erosion.
(History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-208 and Sec. 76-5-404, MCA; NEW, Eff. 9/4/74.)

NEXT PAGE IS 36-277

Sub-Chapter 2

Regulation and Enforcement

36.15.201 LOCAL REGULATION AND ENFORCEMENT If a political subdivision adopts land use regulations that equal or exceed the minimum standards contained in sub-chapters 6 through 9 of these rules within the time specified and if the administrative and enforcement procedures for such regulations meet the requirements of these rules and are approved by the Board in accordance with Section 76-5-302, MCA, no permit will be required from the Department. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-302, MCA; NEW, Eff. 9/4/74; EMERG, AMD, Eff. 9/4/75.)

36.15.202 BOARD APPROVAL OF LOCAL REGULATIONS AND ENFORCEMENT (1) Copies of all regulations, resolutions, or ordinances proposed to be adopted by a political subdivision to meet the requirements of the Act and these rules and an explanation of its proposed administrative and enforcement procedures shall be sent to the Department for approval by the Board.

(2) The Department will notify the political subdivision by letter of Board approval or disapproval. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-302, MCA; NEW, Eff. 9/4/74; EMERG, AMD, Eff. 9/4/75.)

36.15.203 TIME LIMIT FOR ADOPTION OF LOCAL REGULATIONS After a floodway or a floodplain has been designated by the Board, the Department shall notify the affected political subdivisions and set forth the date by which the political subdivision must adopt land use regulations in accordance with the Act and these rules. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-302, MCA; NEW, Eff. 9/4/74; EMERG, AMD, Eff. 9/4/75.)

36.15.204 LOCAL REGULATIONS - REQUIREMENTS (1) Land use regulations adopted by a local political subdivision in conformance with the Act and these rules may include zoning, building codes, and subdivision regulations adopted pursuant to other enabling statutory authority, such as Title 76, Chapters 1 and 3, Title 76, Chapter 2, Part 3, and Title 76, Chapter 2, Parts 1 and 2, MCA, as well as regulations adopted under the authority given in Sections 76-5-404 through 76-5-406, MCA.

(2) Any land use regulations and procedures adopted to comply with the Act and these rules must include the following:

(a) Permits must be required prior to the establishment of any new artificial obstruction or nonconforming use requiring a permit under the Act or these rules or for the alteration of any existing artificial obstruction;

(b) An official must be hired or appointed with the authority to review permit applications and proposed uses or construction to determine compliance with the Act, these rules, and the regulations adopted by the political subdivision;

(c) Regulations governing the granting of permits must be at least as stringent as the minimum standards contained in these rules;

(d) The approval of the Department must be obtained prior to the approval by the political subdivision pursuant to ARM 36. 15.216(3) of any permit application that is in variance with the adopted regulations and these rules;

(e) Copies of all permits granted must be sent to the Department;

(f) Before the regulations are effective, all known property owners within the designated floodplain and designated floodway must be notified by mail by the political subdivision that their property is located within the designated floodplain or floodway and is subject to regulation. This notification provision shall not apply to political subdivisions that have adopted building codes requiring permits for new construction or to municipalities or counties that have received Flood Hazard Boundary Maps or Flood Insurance Rate Maps from the United States Department of Housing and Urban Development:

(g) A disclosure provision requiring all property owners in a designated floodplain or floodway to notify potential buyers or their agents that such property is located within the designated floodplain or floodway and is subject to regulation.

(3) The regulations may also include the following:

(a) requirements that existing nonconforming uses be inspected and documented to insure future compliance;

(b) the imposition of a reasonable application fee not to exceed $25.00 for the processing of permit applications. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-302, MCA; NEW, Eff. 9/4/74; EMERG, AMD, Eff. 9/4/75.)

36-15.205 through 36.15.208 Reserved

NEXT PAGE IS 36- 281

36.15.209 DEPARTMENT REGULATION AND ENFORCEMENT

(1) If the political subdivision fails to adopt land use regulations that meet or exceed the minimum standards required by the Act and these rules within the time specified, the minimum standards set forth in the Act and these rules regulating the designated floodplain or floodway will be enforced by the Department.

(2) An application to the Department for a permit shall be made on a standard form furnished by the Department (Form 650) and shall include all applicable information listed on the form.

(3) The permit to establish or alter artificial obstructions or nonconforming uses, if approved, will be given by the Department on a standard form (Form 651). (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-301, MCA; NEW, 9/4/74.)

36.15.210 ENVIRONMENTAL IMPACT STATEMENTS

(1) If in the case of a permit application to the Department, the Department is of the opinion that a proposed alteration, obstruction, or nonconforming use would have a significant impact on the environment, the Department may require the applicant to provide information necessary for the preparation of an Environmental Impact Statement, pursuant to the Montana Environmental Policy Act, Title 75, Chapter 1, MCA.

(2) If an Environmental Impact Statement is required, the Department shall so inform the applicant in writing indicating the information required for preparation of the Environmental Impact Statement by the Department.

(3) A permit application requiring an Environmental Impact Statement will be specifically approved or denied by the Department only after full compliance with the provisions of the Montana Environmental Policy Act. Normally, the period of time required for review of these permit applications will be from 60 to 120 days. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-405, MCA; NEW, Eff. 9/4/74.)

36.15.211 through 36.15.215 Reserved

NEXT PAGE IS 36-285

36.15.216 PERMITS - CRITERIA - TIME LIMITS (1) Permits shall be granted or denied by the permit issuing authority on the basis of whether the proposed establishment or alteration of an artificial obstruction or nonconforming use meets the requirements of the Act and the minimum standards established by the Board in these rules.

(2) Additional factors that shall be considered for every permit application are:

(a) the danger to life and property from backwater or diverted flow caused by the obstruction;

(b) the danger that the obstruction will be swept downstream to the injury of others;

(c) the availability of alternative locations;

(d) the construction or alteration of the obstruction in such manner as to lessen the danger;

(e) the permanence of the obstruction;

(f) the anticipated development in the foreseeable future of the area which may be affected by the obstruction; and,

(g) such other factors as are in harmony with the purposes of the Act and these rules.

(3) The permit issuing authority may grant a permit for the establishment or alteration of an artificial obstruction or nonconforming use that is not in compliance with the minimum standards contained in these rules only if:

(a) The proposed use would not increase flood heights or flood hazard either upstream or downstream;

(b) Refusal of a permit would because of exceptional circumstances cause a unique or undue hardship on the applicant or community involved;

(c) The proposed use is adequately floodproofed; and

(d) Reasonable alternative locations outside the designated floodplain are not available.

(4) A permit application is considered to have been automatically granted 60 days after receipt of the application, unless the permit issuing authority notifies the applicant before the 60th day that the permit is denied or unless ARM 36.15.801(3) or 36.15.210 apply. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-405 and 76-5-406, MCA; NEW, Eff. 9/4/74.)

36.15.217 WAIVER OF PERMIT FOR EMERGENCY REPAIR OR REPLACEMENT (1) Emergency repair to and/or replacement of severely damaged public transportation facilities, public water and sewer facilities, and flood control works may be authorized and permit requirements waived if:

(a) Upon notification and prior to the emergency repair and/or replacement, the permit issuing authority determines that an emergency condition warranting immediate action exists; and

(b) The permit issuing authority agrees upon the nature and type of proposed emergency repair and/or replacement.

(2) Authorization to undertake emergency repair and/or replacement work may be given verbally if the permit issuing

authority feels that a written authorization would unduly delay the emergency work. Such verbal authorization must be followed by a written authorization stating the emergency condition, the type of emergency work agreed upon, and a notation that verbal authorization had been previously given. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-405 and Sec. 76-5-406, MCA; NEW, 9/4/74.)

Sub-Chapters 3 and 4 Reserved

NEXT PAGE IS 36-297

Sub-Chapter 5

Floodplain and Floodway Delineations

36.15.501 FLOODPLAIN AND FLOODWAY DELINEATION - DATA USED - HYDROLOGICAL CERTAINTY (1) All floodplain delineation studies, reports, and maps used by the Department and Board to establish designated floodplains shall be based upon a flood of 100-year frequency.

(2) Each floodplain delineation study arranged by the Department will, insofar as time and funds permit, include a water surface profile showing the elevation of the flood of 100-year frequency and a suggested designated floodway.

(3) The Department will also utilize flood hazard maps and data provided by the U.S. Department of Housing and Urban Development for the Federal flood insurance program as a basis for establishing the designated floodplain and floodway. Such maps will delineate the boundaries of the flood of 100-year frequency but will not generally include flood elevations or floodway data.

(4) Designated floodplains established for areas where flood elevations and/or floodway data are lacking shall be regulated in accordance with Rule ARM 36.15.801.

(5) As required by Section 76-5-202, MCA, the designation of floodplains and floodways shall be based upon reasonable hydrological certainty. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-201 and Sec. 76-5-202, MCA; NEW, Eff. 9/4/74.)

36.15.502 FLOODWAY DELINEATION (1) The delineations of a designated floodway shall be based on the channel of the watercourse or drainway and those portions of the adjoining floodplain which are reasonably required to carry the discharge the flood of 100-year frequency without any theoretical measurable increase in flood heights.

(2) In areas having appreciable urban development on the floodplain, the outer boundary lines of the floodway may generally follow the riverward limits of development provided that:

(a) The calculated elevation of the flood of 100-year frequency would not be increased more than 0.5 of a foot as a result of the theoretical additional construction of the floodway;

(b) Floodway lines are compatible with local land use plans; and,

(c) The flood fringe does not contain appreciable areas with flood velocities greater than 3 feet per second or flood depths greater than 3 feet. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-201 and Sec. 76-5-202, MCA; NEW, 9/4/74.)

36.15.503 PUBLIC INPUT ON PROPOSED DESIGNATED FLOODPLAINS OR FLOODWAYS (1) The department shall at least 3 weeks prior to any hearing held for the purpose of establishing a designated floodplain or floodway furnish the affected political subdivisions maps and other data showing the proposed designated floodplain or floodway together with a letter requesting the political subdivision to furnish any pertinent data on flood hazards as required by Section 76-5-201 of the Act.

(2) The Department shall also issue news releases at least 3 weeks prior to any hearing requesting the public to submit any available data concerning flood hazard, flood elevations, or the proposed designated floodplain or floodway boundaries. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-201, MCA; NEW, Eff. 9/4/74.)

36.15.504 LOCAL GOVERNMENT ADJUSTMENTS TO PROPOSED FLOODWAY DELINEATION (1) After the delineation of a suggested designated floodway by the Department and prior to the public hearing to consider the floodway delineations, the Department shall meet with local governmental and planning officials to consider possible adjustments due to local land use consideration.

(2) No adjustments in floodway width or location may be made, however, if such adjustments would theoretically increase flood heights beyond the permissible limits noted in ARM 36.15.502. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-201 and Sec. 76-5-202, MCA; NEW, 9/4/74.)

NEXT PAGE IS 36- 305

Sub-Chapter 6

Designated Floodway Minimum Standards

36.15.601 USES ALLOWED WITHOUT PERMITS (1) In accordance with Section 76-5-401, MCA, the following open space uses shall be allowed without a permit anywhere within the designated floodway provided that they are not prohibited by any other ordinance or statute and provided that they do not require structures other than portable structures, fill, or permanent storage of materials or equipment:

(a) agricultural uses;

(b) industrial-commercial uses such as loading areas, parking areas, and emergency landing strips;

(c) private and public recreational uses such as golf courses, driving ranges, archery ranges, picnic grounds, boat-launching ramps, swimming areas, parks, wildlife management and natural areas, game farms, fish hatcheries, shooting preserves, target ranges, trap and skeet ranges, hunting and fishing areas, and hiking and horseback riding trails;

(d) forestry, including processing of forest products with portable equipment; and

(e) residential uses such as lawns, gardens, parking areas, and play areas.

(2) In addition to the uses specified in the preceding subsection, the following uses and their accessories do not in the judgment of the Board endanger health or safety or cause increased flood heights and shall thus be allowed without a permit in the designated floodway:

(a) irrigation and livestock supply wells provided that they are located at least 500 feet from domestic water supply wells; and

(b) fences, except permanent fences crossing channels. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-401, Sec. 76-5-405, and Sec. 76-5-406, MCA; NEW, Eff. 9/4/74.)

36.15.602 USES REQUIRING PERMITS In addition to the uses allowed under ARM 36.15.601, the following nonconforming uses and artificial obstructions may be permitted within the designated floodway subject to the issuance of a permit by the permit issuing authority under the conditions set forth in this rule and ARM 36.15.603 and 36.15.604:

(1) excavation of material from pits or pools provided that:

(a) a buffer strip of undisturbed land of sufficient width to prevent flood flows from channeling into the excavation is left between the edge of the channel and the edge of the excavation;

(b) the excavation meets all applicable laws and regulations of other local and state agencies; and

(c) excavated material is stockpiled outside the designated floodway;

(2) railroad, highway, and street stream crossings provided that the crossings are designated to offer minimal obstruction to flood flow;

(3) limited filling for highway, street, and railroad embankments not associated with stream crossings provided that:

(a) reasonable alternative transportation routes outside the designated floodway are not available; and

(b) such floodway encroachment is located as far from the stream channel as possible;

(4) buried or suspended utility transmission lines provided that:

(a) suspended utility transmission lines are designed such that the lowest point of the suspended line is at least 6 feet higher than the elevation of the flood of 100-year frequency;

(b) towers and other appurtenant structures are designed and placed to withstand and offer minimal obstruction to flood flows; and

(c) utility transmission lines carrying toxic or flammable materials are buried to a depth at least twice the calculated maximum depth of scour for a flood of 100-year frequency. The maximum depth of scour may be determined from any of the accepted hydraulic engineering methods, but the final calculated figure shall be subject to approval by the permit issuing authority;

(5) storage of materials and equipment provided that:

(a) the material or equipment is not subject to major damage by flooding and is properly anchored to prevent flotation or downstream movement; or,

(b) the material or equipment is readily removable within the limited time available after flood warning. Storage of flammable, toxic, or explosive materials shall not be permitted;

(6) domestic water supply wells provided that:

(a) they are driven or drilled wells located on ground higher than surrounding ground to assure positive drainage from the well;

(b) well casings are watertight to a distance of at least 25 feet below the ground surface;

(c) water supply and electrical lines have a watertight seal where the lines enter the casing;

(d) all pumps and electrical lines and equipment are either of the submersible type or are adequately floodproofed; and

(e) check valves are installed on main water lines at wells and at all building entry locations;

(7) buried and sealed vaults for sewage disposal in recreational areas provided that they meet applicable laws and standards administered by the Department of Health and Environmental Sciences;

(8) public or private campgrounds provided that:

(a) access roads require only limited fill and do not obstruct or divert flood waters; and,

(b) no dwellings or permanent mobile homes are allowed (camp trailers without wheels or towing vehicles or otherwise not quickly movable are considered permanent mobile homes);

(9) structures accessory to the uses permitted in this subsection such as boat docks, marinas, sheds, permanent fences crossing channels, picnic shelters and tables, and toilets provided that:

(a) the structures are not intended for human habitation;

(b) the structures will have a low flood damage potential;

(c) the structures will insofar as possible be located on ground higher than the surrounding ground and as far from the channel as possible;

(d) the structures will be constructed and placed so as to offer a minimal obstruction to flood flows;

(e) the structures will be firmly anchored to prevent flotation; and,

(f) service facilities within these structures such as electrical, heating, and plumbing facilities are floodproofed in accordance with ARM 36.15.901 through 36.15.903;

(10) all other nonconforming uses or artificial obstructions not specifically listed in this subsection or in ARM 36.15.606, not allowed under ARM 36.15.601, and not prohibited under ARM 36.15.605. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-404 through 76-5-406, MCA; NEW, 9/4/74.)

36.15.603 PERMITS FOR WATER DIVERSIONS (1) As provided in the Montana Water Use Act of 1973, Sections 85-2-302 and 85-2-402, MCA, all new surface water diversions and changes in place of diversion after July 1, 1973, require permits or approval, respectively, from the Department. Within designated floodways, the Department shall review each proposed diversion and change in place of diversion to determine if flood flows may be affected.

(2) If it appears that a proposed diversion or change in place of diversion may significantly affect flood flows, the Department may require the applicant to provide additional information and to apply for a permit with the permit issuing authority under Title 76, Chapter 5, MCA, as amended.

(3) A permit under Title 76, Chapter 5, MCA, as amended, shall not be granted if in the judgment of the permit issuing authority:

(a) the proposed diversion will increase the upstream elevation of the 100-year flood a significant amount (0.5 of a foot or as otherwise determined by the permit issuing authority);

(b) the proposed diversion is not designed and constructed to minimize potential erosion from a flood of 100-year frequency; and,

(c) any permanent diversion structure crossing the full width of the stream channel is not designed and constructed to safely withstand up to a flood of 100-year frequency. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-404 through 75-5-406, MCA; NEW, 9/4/74.)

36.15.604 MINIMUM CRITERIA FOR PERMITS In addition to the requirements of ARM 36.15.602 and 36.15.603, a permit shall not be approved for a new artificial obstruction or nonconforming use under this rule if it will significantly increase the upstream elevation of the flood of 100-year frequency 0.5 of a foot or as otherwise determined by the permit issuing authority) or significantly increase flood velocities. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-404 through 76-5-405, MCA; NEW, 9/ 4/ 74.)

36.15.605 PROHIBITED USES (1) In accordance with Section 76-5-403, MCA, the following artificial obstructions and nonconforming uses are prohibited within the designated floodway except as allowed by permit under ARM 36-15-602 through 36.15.604 and ARM 36.15.606:

"(a) a building for living purposes or place of assembly or permanent use by human beings;

(b) a structure or excavation that will cause water to be diverted from the established floodway, cause erosion, obstruct the natural flow of water, or reduce the carrying capacity of the floodway;

(c) the construction or permanent storage of an object subject to flotation or movement during flood level periods."

(2) The following artificial obstructions and nonconforming uses are also prohibited within the designated floodway:

(a) mobile homes without wheels or towing vehicles or otherwise not readily movable;

(b) commercial buildings;

(c) solid waste disposal/ and soil absorption sewage systems except as allowed or approved under the laws and standards administered by the Department of Health and Environmental Sciences;

(d) storage of highly toxic, flammable, or explosive materials. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-403 and 76-5-406, MCA; NEW, Eff. 9/4/74.)

36.15.606 PERMITS FOR FLOOD CONTROL WORKS (1) Since structural flood control works often significantly obstruct and affect floodway flow capacity, the following flood control measures shall be allowed within designated floodways subject to the issuance of a permit by the permit issuing authority and to the conditions set forth in this rule:

(a) Flood control levees and floodwalls if:

(i) the proposed levees and floodwalls are designed and constructed to safely convey a flood of 100-year frequency;

(ii) the cumulative effect of the levees and floodwalls combined with allowable flood fringe encroachments does not increase the unobstructed elevation of a flood of 100-year frequency more than 0.5 of a foot at any point;

(b) riprap, except that which is hand placed, if:

(i) the riprap is designed to withstand a flood of 100-year frequency;

(ii) the riprap does not increase the elevation of the 100-year frequency; and

(iii) the riprap will not increase erosion upstream, downstream, or across stream from the riprap site;

(c) channelization projects if they do not significantly increase the magnitude, velocity, or elevation of the flood of 100-year frequency downstream from such projects;

(d) dams provided that:

(i) they are designed and constructed in accordance with approved safety standards; and

(ii) they will not increase flood hazards downstream either through operational procedures or improper hydrologic design.

(2) The permit issuing authority may establish either a lower or higher permissible increase in the elevation of the flood of 100-year frequency than that established in subsection (1)(a)(ii) for individual levee projects based on the following criteria:

(a) The proposed levees and floodwalls, except those to protect agricultural land only, are constructed at least 3 feet higher than the elevation of a flood of 100-year frequency more than 9.5 of a foot at any point; and

(b) The estimated cumulative effect of other reasonably anticipated future permissible uses; and

(c) The type and amount of existing flood prone development in the affected area; (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-404 through 76-5-406, MCA; NEW, 9/4/74.)

NEXT PAGE IS 36-315

Sub-Chapter 7

Flood Fringe Minimum Standards

36.15.701 ALLOWED USES (1) All uses allowed in the designated floodway without a permit under ARM 36.15.601 shall also be allowed without a permit in the flood fringe.

(2) All uses allowed in the designated floodway subject to the issuance of a permit under ARM 36.15.602 through 36.15.604 and ARM 36.15.606 shall also be allowed in the flood fringe subject to the issuance of a permit by the permit issuing authority.

(3) In addition, structures including, but not limited to residential, commercial, and industrial structures, and suitable fill shall be allowed by permit from the permit issuing authority within the flood fringe subject to the following conditions:

(a) Such structures or fill must not be prohibited by any other statute, regulation, ordinance, or resolution;

(b) Such structures or fill must be compatible with local comprehensive plans, if any;

(c) Residential structures must be constructed on suitable fill such that the lowest finish floor elevations (including basement) are 2 feet or more above the elevation of the flood of 100-year frequency. The fill shall be at an elevation no lower than the elevation of the flood of 100-year frequency and shall extend for at least 15 feet at that elevation beyond the structure in all directions. Where existing streets, utilities, or lot dimensions make strict compliance with this providion impossible, the permit issuing authority may authorize through the permit a lesser amount of fill or alternative flood proofing measures. The responsible political subdivision shall notify the Department and receive its approval prior to approving any lesser fill or alternative flood proofing for residential structures;

(d) Commercial and industrial structures must be either constructed on fill as specified in the preceding subparagraph or be adequately flood proofed up to an elevation no lower than 2 feet above the elevation of the flood of 100-year frequency;

(e) Roads, streets, highways, and rail lines shall be designed to minimize increases in flood heights. Where failure or interruption of transportation facilities would result in danger to the public health or safety, the facilities shall be located 2 feet above the elevation of the flood of 100-year frequency;

(f) Public or private structures and facilities for liquid or solid waste treatment and disposal must be floodproofed to insure that no pollutants enter flood waters. These facilities must be allowed and approved under laws and standards administered by the Department of Health and Environmental Sciences prior to any approval given by the permit issuing authority; and

(g) Agricultural structures that have a low flood damage potential such as sheds, barns, shelters, and hay and grain storage structures must meet the requirements of ARM 36.15.602 (9). (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-402, Sec. 76-5-404 through 76-5-406, MCA; NEW, 9/4/74.)

36.15.702 FLOOD PROOFING FOR COMMERCIAL AND INDUSTRIAL STRUCTURES Flood proofing as required in ARM 36.15.701(3)(d) shall be accomplished in accordance with ARM 36.15.901 through 36.15.903 and shall further include the following:

(1) If the structure is designed to allow internal flooding of the lowest floor, use of the floor shall be limited to such uses as parking, loading areas, and storage of equipment or materials not appreciably affected by flood water. Further, the floors and walls shall be designed and constructed of materials resistant to flooding up to an elevation of 2 or more feet above the elevation of the flood of 100-year frequency; and

(2) Structures whose lowest floors are used for purposes other than parking, loading, or storage of materials resistant to flooding shall be waterproofed up to an elevation no lower than 2 feet above the elevation of the flood of 100-year frequency. Waterproofing shall include impermeable membranes or materials for floors and walls and watertight enclosures for all windows, doors, and other openings. These structures shall be designed to withstand the hydrostatic pressures resulting from a flood of 100-year frequency. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-402, Sec. 76-5-404 through 76-5-406, MCA; NEW, 9/4/74.)

36.15.703 PROHIBITED USES The following artificial obstructions and nonconforming uses are prohibited within the flood fringe:

(1) solid waste disposal and soil absorption sewage systems, except as allowed or approved under laws and standards administered by the Department of Health and Environmental Sciences; and

(2) storage of highly toxic, flammable, or explosive materials. Storage of petroleum products may be allowed by permit if buried in tightly sealed and constrained containers or if stored on compacted fill at least 2 feet above the elevation of the flood of 100-year frequency. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-404 through Sec. 76-5-406, MCA; NEW, 9/4/74.)

NEXT PAGE IS 36-321

Sub-Chapter 8

Designated Floodplain Only Minimum Standards

36.15.801 ALLOWED USES WHERE FLOODWAY NOT DESIGNATED OR NO FLOOD ELEVATIONS (1) For those watercourses or drainways in which there is a designated floodplain but not a designated floodway or where no flood elevations are available, all uses allowed in a designated floodway under ARM 36.15.601 without a permit shall also be allowed without a permit in such designated floodplain.

(2) All other uses within the designated floodplain shall require permits from the permit issuing authority. The following conditions insofar as each is applicable shall be attached to each permit approval:

(a) If the elevation of the flood of 100-year frequency is available, residential structures must be built on compacted fill as specified in ARM 36.15.701(3)(c). If such elevation is not available, the highest known historical flood elevation may be used to establish fill heights;

(b) If the elevation of the flood of 100-year frequency is available, commercial and industrial structures must meet the flood proofing requirements set forth in ARM 36.15.701(3)(d) and 36.15.702. If such elevation is not available, the highest known historical flood elevation may be used to establish flood proofing heights;

(c) Proposed structures must be anchored to prevent flotation or collapse and must be located as far from stream channels as is practicable; and

(d) Sanitary sewage systems must be allowed and approved under laws and standards administered by the Department of Health and Environmental Sciences prior to any approval given under these rules.

(3) Where a proposed development within such designated floodplain may significantly increase flood velocities or depths, the permit issuing authority may require a permit applicant to furnish additional hydraulic and survey information before acting upon the permit application. This information may include, but is not limited to, any of the following:

(a) valley cross sections of the watercourse and adjoining floodplain;

(b) certification by a qualified professional engineer that floodproofing measures are reasonably adequate to protect against major flood damages; or

(c) a hydrologic study documenting probable effect on upstream or downstream property owners.

(4) Permits for such proposed developments may be modified or denied if the additional information shows that proposals would increase flood damages to other properties or would cause a threat to the health or safety of its occupants. (History:

Sec. 76-5-208, MCA; IMP, Sec. 76-5-402, Sec. 76-5-404 through 76-5-406, MCA; NEW, 9/4/74.)

NEXT PAGE IS 36-325

Sub-Chapter 9

Flood Proofing Requirements

36.15.901 FLOOD PROOFING REQUIREMENTS FOR ELECTRICAL SYSTEMS All electrical service materials, equipment, and installation for uses permitted with or without a permit in a designated floodplain or floodway shall conform to the following conditions:

(1) All incoming power service equipment including all metering equipment, control centers, transformers, distribution and lighting panels, and all other stationary equipment must be located at least 2 feet above the elevation of the flood of 100-year frequency;

(2) Portable or movable electrical equipment may be placed below the elevation of the flood of 100-year frequency provided that the equipment can be disconnected by a single plug-and-socket assembly of the submersible type;

(3) The main power service line shall have automatically operated electrical disconnect equipment or manually operated electrical disconnect equipment located at an accessible remote location outside the designated floodplain and above the elevation of the flood of 100-year frequency; and

(4) All electrical wiring systems installed below the elevation of the flood of 100-year frequency shall be suitable for continuous submergence and may not contain fibrous components. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-401 through 76-5-402 and Sec. 76-5-404 through 76-5-406, MCA; Eff. 9/4/74.)

36.15.902 FLOODPROOFING REQUIREMENTS FOR HEATING SYSTEMS Heating systems for allowed and permittted floodplain and floodway uses shall conform to the following conditions:

(1) Float operated automatic control valves must be installed in supply lines to gas furnaces so that the fuel supply is automatically shut off when flood waters reach the floor level where the furnaces are located;

(2) Manually operated gate valves that can be operated from a location above the elevation of the flood of 100-year frequency shall also be provided in gas supply lines; and

(3) Electric heating systems must be installed in accordance with ARM 36.15.902. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-401 through 76-5-402 and Sec. 76-5-404 through 76-5-406, MCA; Eff. 9/4/74.)

36.15.903 FLOOD PROOFING REQUIREMENTS FOR PLUMBING SYSTEMS Plumbing systems for allowed and permitted floodplain and floodway uses shall conform to the following conditions:

(1) Sewer lines, except those to buried and sealed vaults, must have check valves installed to prevent sewage backup into permitted structures; and

(2) All toilet stools, sinks, urinals, and drains must be

located such that the lowest point of possible water entry is at least 2 feet above the elevation of the flood of 100-year frequency. (History: Sec. 76-5-208, MCA; IMP, Sec. 76-5-401 through 76-5-402 and Sec. 76-5-404 through 76-5-406, MCA; Eff. 9/4/74.)

NEXT PAGE IS 36- 335

CHAPTER VII:
MONTANA MODEL FLOODPLAIN ORDINANCE

(revised 12/15/86)

FLOODPLAIN AND FLOODWAY MANAGEMENT ORDINANCE

ORDINANCE # __________

TABLE OF CONTENTS

Page

Intent 1

Statutory Authority. 1

Adoption 1

I. Title and Purpose. 2

II. Definitions. 3

III. General Provisions 9

Jurisdictional Area. 9
Floodplain District Establishment. 9
Floodplain Administrator 10
Rule for Interpretation of Floodplain District Boundaries 10
Compliance 10
Abrogation and Greater Responsibility. 10
Regulation Interpretation. 11
Warning and Disclaimer of Liability. 11
Severability 11
Disclosure Provision 11

IV. Administration 12

Permit Applications. 15
Emergency Waiver 16
Review - Variance - Appeals. 17
Fees 19
Violation Notice 19
Compliance 19
Penalties. 19

V. Specific Standards 20

Applications 20

Floodway 20
    Uses Allowed Without Permits 20
    Uses Requiring Permits 21
    Permits for Flood Control Works. 24
    Permits for Water Diversions 26
    Prohibited Uses. 27

Floodway Fringe. 27
    Uses Allowed Without Permits 27
    Uses Requiring Permits 28
    Prohibited Uses. 30

Floodplain Areas with Flood Elevations and No Delineated Floodway 31
Shallow Flooding (AO Zones) 32
Floodplain Boundary Interpretation. 32

VI. General Standards 33

Applications. 33
Uses Allowed Without Permits. 33
Uses Requiring Permits. 33
Prohibited Uses 34
Floodplain Boundary Interpretation. 34

VII. Flood-proofing Requirements 35

Certification 35
Conformance 35
Electrical Systems. 35
Heating Systems 36
Plumbing Systems. 36

Intent

This (Resolution/Ordinance) is passed in order to comply with the Montana Floodplain and Floodway Management Act (Title 76, Chapter 5-M.C.A.) and to ensure compliance with the requirements for the continued participation by ____________________________
(City, Town, or County Name)
in the National Flood Insurance Program. Land-use regulations which are hereby adopted are to be applied to all identified 100-year floodplains within local jurisdiction and are attached as Appendix A.

Statutory Authority

Adoption

This (Resolution/Ordinance) adopts the set of comprehensive land-use regulations attached as Appendix A for identified 100-year floodplains within ________________________________.
(City, Town, or County Name)
Identification of 100-year floodplains is based on the ________________________________ Flood Insurance Study, dated ________________. All other (resolutions/ordinances) are hereby repealed to the extent of any inconsistencies.

APPENDIX A

CHAPTER I

TITLE AND PURPOSE

1.01 Title

These Regulations shall be known and cited as

______________________________ Floodplain Regulations.

(City, Town, or County Name)

These Regulations are in accordance with exercising the authority of the laws of the State of Montana.

1.02 Purpose

To promote the public health, safety, and general welfare, to minimize flood losses in areas subject to flood hazards, and to promote wise use of the floodplain. These Regulations have been established with the following purposes intended:

A. To guide development of the 100-year floodplain area within local jurisdiction consistent with the enumerated findings by:

1. recognizing the right and need of water courses to periodically carry more than the normal flow of water;

2. participating in coordinated efforts of federal, state, and local management activities for 100-year floodplains; and

3. insuring the regulations and minimum standards adopted, insofar as possible, balance the greatest public good with the least private injury.

B. Specifically it is the purpose of these Regulations to:

1. restrict or prohibit uses which are dangerous to health, safety, and property in times of flood, or cause increased flood heights and velocities;

2. require that uses vulnerable to floods, including public facilities, be provided with flood protection at the time of initial construction;

3. utilize information which identifies lands unsuitable for certain development purposes because of flood hazards;

4. minimize the need for rescue and relief efforts associated with flooding undertaken at the expense of the general public;

5. insure that potential buyers are notified that property is within a 100-year floodplain and subject to the provisions of these Regulations; and

6. insure that those who occupy 100-year floodplains assume responsibility for their actions.

CHAPTER II

DEFINITIONS

2.01 Definitions

Unless specifically defined below, words or phrases used in these Regulations shall be interpreted so as to give them the meaning they have in common usage and to give these Regulations the most reasonable application.

Alteration -- Any change or addition to a structure that increases its external dimensions.

Appeal -- A request for a review of the Floodplain Administrator's interpretation of any provisions of these Regulations or a request for a variance.

Area of Special Flood Hazard -- The land in the floodplain within the community subject to inundation by a one percent (1%) or greater chance of flooding in any given year, i.e. the 100-year floodplain.

Artificial Obstruction - Development -- Any obstruction which is not natural and includes any dam, diversion, wall, riprap, embankment, levee, dike, pile, abutment, projection, revetment, excavation, channel rectification, bridge, conduit, culvert, building, refuse, automobile body, fill or other analogous structure or matter in, along, across, or projecting into any 100-year floodplain which may impede, retard, or alter the pattern of flow of water, either in itself or by catching or collecting debris carried by the water, or that is placed where the natural flow of water would carry the same downstream to the damage or detriment of either life or property.

Base Flood -- A flood having a one percent (1%) chance of being equalled or exceeded in any given year. A base flood is the same as a 100-year flood.

Channelization Project -- The excavation and/or construction of an artificial channel for the purpose of diverting the entire flow of a stream from its established course.

Establish -- To construct, place, insert, or excavate.

Flood or Flooding -- A general and temporary condition of partial or complete inundation of normally dry lands from the overflow of a stream, or the unusual and rapid accumulation or runoff of surface waters from any source.

Floodplain -- The areas generally adjoining a stream which would be covered by floodwater. It consists of a floodway and floodway fringe.

Floodway -- The channel of a stream and the adjacent overbank areas that must be reserved in order to discharge a base flood without cumulatively increasing the water surface elevation more than one-half (1/2) foot.

Floodway Fringe -- That portion of the floodplain outside the limits of the floodway.

Flood Insurance Rate Map -- The map on which the Federal Emergency Management Agency has delineated both the 100-year floodplains and the risk premium zones.

Flood Insurance Study -- The report in which the Federal Emergency Management Agency has provided flood profiles, as well as the Flood Boundary - Floodway Map and the water surface profiles.

Levee -- A man-made structure, usually earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to provide protection from temporary flooding.

Levee System -- A flood protection system which consists of a levee, or levees, and associated structures, such as drainage and closure devices, which are constructed and operated in accordance with sound engineering practices.

Lowest Floor -- Any floor used for living purposes, storage, or recreation. This includes any floor that could be converted to such a use.

Manufactured Home -- A structure that is transportable in one or more sections, built on a permanent chassis, and designed to be used with or without a permanent foundation when connected to the required utilities. For floodplain management purposes it also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days.

Manufactured Home Park or Subdivision -- A parcel or contiguous parcels of land divided into two or more manufactured home lots for rent or sale.

Mean Sea Level -- The National Geodetic Vertical Datum (NGVD) of 1929 or other datum to which base flood elevations are referenced.

New Construction -- Structures for which the start of construction, substantial improvement, or alteration commences on or after the effective date of these Regulations.

Non-Conforming Use -- A land use not in accordance with these Regulations.

Official Floodplain Maps -- The Flood Insurance Rate Maps and Flood Boundary - Floodway Maps provided by the Federal Emergency Management Agency for ______________________________,
(City, Town or County Name)
dated ____________________.

Permit Issuing Authority -- ______________________________.
(City/Town Council or County Commissioners)

Riprap -- Stone, rocks, concrete blocks, or analogous material that is placed along the banks or bed of a stream for the purpose of alleviating erosion.

Start of Construction -- The first placement of permanent construction of a structure on a site, such as pouring of slabs or footings or any work beyond the state of excavation. Permanent construction of residential structures does not include land preparation, such as clearing, grading, and filling, nor does it include the installation of streets, and/or walkways; nor does it include the excavation for a basement, footings, piers, or foundation or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not as part of the main structure. For a structure (other than a manufactured home) without a basement or poured footings, the start of construction includes the first permanent framing or assembly of the structure or any part therof on its piling or foundation. For manufactured homes not within a manufactured home park or subdivision, start of construction is the completion date of construction of facilities for servicing the manufactured home site. At a minimum this includes the construction of streets, either final site grading or the pouring of concrete pads, and the installation of utilities. For manufactured homes being replaced in an existing park or subdivision, start of construction means placement of the home on the foundation.

Structure -- A walled and roofed building, manufactured home, or a gas or liquid storage tank, that is principally above ground.

Substantial Improvement -- Any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds fifty percent (50%) of the market value of the structure either:

(1) before the improvement or repair is started, or
(2) if the structure has been damaged, and is being restored, before the damage occurred.

For the purposes of this definition, substantial improvement is considered to occur when the first construction to any wall, ceiling, floor, or other structural part of the building commences. The term does not include:

(1) any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions, or
(2) any alteration of a structure listed on the National Register of Historic Places or State Inventory of Historic Places.

Suitable Fill -- Fill material which is stable, compacted, well graded, pervious, generally unaffected by water and frost, devoid of trash or similar foreign matter, tree stumps, or other organic material; and is fitting for the purpose of supporting the intended use and/or permanent structure.

Variance -- A grant or relief from the requirements of these Regulations which would permit construction in a manner that would otherwise be prohibited by these Regulations.

Violation -- The failure of a structure or other development to be fully compliant with these regulations. A structure or other development without elevation certificate, certification by a licensed engineer or architect, or other evidence of compliance is presumed to be in violation until such time as documentation is provided.

100-Year Flood - A flood having a one percent (1%) chance of being equalled or exceeded in any given year. A 100-year flood has nearly a 23 percent chance of occurring in a 25-year period. A 100-year flood is the same as a base flood.

CHAPTER III
GENERAL PROVISIONS

3.01 Jurisdictional Area

These Regulations shall apply to all lands within the jurisdiction of ______________________________, State
(City, Town or County Name)
of Montana, shown on the Official Floodplain Maps as being located within a 100-year floodplain district.

3.02 Floodplain District Establishment

The floodplain districts established are defined by the 100-year floodplains as delineated in the Flood Insurance Study. The basis for the Flood Insurance Study is a scientific and engineering report entitled, "The Flood Insurance Study for ___________________, Montana", dated _______________, with accompanying Flood Insurance Rate Maps and Flood Boundary - Floodway Maps. The Official Floodplain Maps, together with the Flood Insurance Study are on file in the office of the Floodplain Administrator.

3.03 Floodplain Administrator

The ______________________________ Floodplain Administrator
(City, Town, or County Name)
has been designated to be
the ____.
(Title of Floodplain Administrator)

The responsibilities of this position are outlined in Chapter IV of these Regulations.

3.04 Rules for Interpretation of Floodplain District Boundaries

The boundaries of the 100-year floodplain and floodway shall be determined by scaling distances on the official floodplain maps. For unnumbered A Zones and AO Zone floodplains, where there is a conflict between a mapped floodplain boundary and actual field conditions, the Floodplain Administrator may determine that the area is not to be included within the 100-year floodplain. The property owner or developer then does not have to satisfy the provisions of these Regulations.

3.05 Compliance

No structure or land use shall be located, extended, converted, or structurally altered without full compliance with the provisions of these Regulations and other applicable regulations. These Regulations meet the minimum floodplain development requirements as set forth by the Montana Board of Natural Resources and Conservation and in the National Flood Insurance Program regulations.

3.06 Abrogation and Greater Responsibility

It is not intended by these Regulations to repeal, abrogate, or impair any existing easements, covenants, deed restrictions, or underlying zoning. However, where these Regulations impose greater restrictions, the provisions of these Regulations shall prevail.

3.07 Regulation Interpretation

The interpretation and application of the provisions of these Regulations shall be considered minimum requirements and liberally construed in favor of the governing body and not deemed a limitation or repeal of any other powers granted by State statute.

3.08 Warning and Disclaimer of Liability

These Regulations do not imply that areas outside the delineated floodplain boundaries or permitted land uses will always be totally free from flooding or flood damages. These regulations shall not create a liability or cause of action against ______________________________,
(City, Town, or County Name)
or any officer or employee thereof for flood damages that may result from reliance upon these Regulations.

3.09 Severability

If any section, clause, provision, or portion of these Regulations is adjudged unconstitutional or invalid by a court of competent jurisdiction, the remainder of these Regulations shall not be affected thereby.

3.10 Disclosure Provision

All owners of property in an identified 100-year floodplain as indicated on the Official Floodplain Maps must notify potential buyers or their agents that such property is subject to the provisions of these Regulations.

CHAPTER IV

ADMINISTRATION

4.01 Administration

A. As provided in Section 3.03 of these Regulations, the Floodplain Administrator has been designated by the ________________________________, and has the
(Local Governing Body)
responsibility of such position as outlined in these Regulations.

B. The Floodplain Administrator is hereby appointed with the authority to review floodplain development permit applications, proposed uses, and construction to determine compliance with these Regulations. The Floodplain Administrator is required to assure all necessary permits have been received from those governmental agencies from which approval is required by federal and state law and local codes, including Section 404 of the Federal Water Pollution Control Act of 1972, 33 U.S.C. 1334.

1. Additional Factors - Floodplain development permits shall be granted or denied by the Floodplain Administrator on the basis of whether the proposed establishment, alteration, or substantial improvement of an artificial obstruction or non-conforming use meets the requirements of these Regulations. Additional factors that shall be considered for every permit application are:

    a. the danger to life and property due to increased flood heights, increased flood water velocities, or alterations in the pattern of flood flow caused by encroachments;

b. the danger that materials may be swept onto other lands or downstream to the injury of others;

c. the proposed water supply and sanitation systems and the ability of these systems to prevent disease, contamination, and unsanitary conditions;

d. the susceptibility of the proposed facility and its contents to flood damage and the effects of such damage on the individual owner;

e. the importance of the services provided by the facility to the community;

f. the requirement of the facility for a waterfront location;

g. the availability of alternative locations not subject to flooding for the proposed use;

h. the compatibility of the proposed use with existing development and anticipated development in the foreseeable future;

i. the relationship of the proposed use to the comprehensive plan and floodplain management program for the area;

j. the safety of access to property in times of flooding for ordinary and emergency services; and

k. such other factors as are in harmony with the purposes of these Regulations, the Montana Floodplain and Floodway Management Act, and the National Flood Insurance Program.

C. A floodplain development permit application is considered to have been automatically granted 60 days after the date of receipt of the application by the Floodplain Administrator, unless the applicant has been notified that the permit is denied, conditionally approved, or additional information pertinent to the permit review process is required.

D. The Floodplain Administrator shall adopt such administrative procedures as may be necessary to efficiently administer the provision of these Regulations.

E. The Floodplain Administrator shall maintain such files and records as may be necessary to document nonconforming uses, flood elevation, floodproofing and elevation certification, fee receipts, the issuance of permits, agendas, minutes, records of public meetings, and any other matters related to floodplain management
in ____.
Such files and records shall be open for public inspection. In matters of litigation
the _____________________ Attorney may restrict
(City, Town, or County)
access to specific records.

F. Copies of all permits granted must be sent to the Department of Natural Resources and Conservation in Helena, Montana.

G. In riverine situations notification by the Floodplain Administrator must be made to adjacent communities, the Floodplain Management Section (DNRC), and the Federal Emergency Management Agency prior to any alteration or relocation of a stream. The flood-carrying capacity within the altered or relocated portion of any stream must be maintained.

4.02 Permit Applications

A. Activities or uses which require the issuance of a permit, including the expansion or alteration of such uses, shall not be initiated, established or undertaken until a permit has been issued by the Floodplain Administrator.

B. Permit applicants may be required to furnish the following information as deemed necessary by the Floodplain Administrator for determining the suitability of the particular site for the proposed use:

1. Plans in duplicate drawn to scale (including dimensions) showing the nature, location, and elevation of the lot, existing and proposed structure locations, fill, storage or materials site, flood-proofing measures, mean sea level elevation of first floor of proposed structures, and location of the channel;

2. A plan view of the proposed development indicating external dimensions of structures, street or road finished grade elevations, well locations, individual sewage treatment and disposal sites, excavation and/or fill quantity estimates, site plan and/or construction plans; and

3. Specifications for flood-proofing, filling, excavating, grading, riprapping, storage of materials, and location of utilities.

C. To determine that the permit specifications and conditions have been completed, applicants who have received permits are required to furnish the following at the time of an on-site conformance inspection:

1. Certification by a registered professional engineer or licensed land surveyor of the actual mean sea level elevation of the lowest floor (including basement) of all new, altered, or substantially improved structures.

2. If flood-proofing techniques were used for structures, the mean sea level elevation to which the flood proofing was accomplished must be certified in the same manner.

4.03 Emergency Waiver

A. Emergency repair and/or replacement of severely damaged public transportation facilities, public water and sewer facilities, and flood control works may be authorized. Floodplain development permit requirements may be waived if:

1. Upon notification and prior to the emergency repair and/or replacement, the Floodplain Administrator determines that an emergency condition exists warranting immediate action; and

2. The Floodplain Administrator agrees upon the nature and type of proposed emergency repair and/or replacement.

B. Authorization to undertake emergency repair and/or replacement work may be given verbally if the Floodplain Administrator feels that such a written authorization would unduly delay the emergency works. Such verbal authorization must be followed by a written authorization stating the emergency condition, the type of emergency work agreed upon, and a notation that a verbal authorization had been previously given.

4.04 Review-Variances-Appeals

A. There is hereby created a local Floodplain Management Board of Adjustment, the membership, administration, and rules of procedure of which are identical to a zoning board of adjustment.

B. The Board of Adjustment may, by variance, grant a permit that is not in compliance with the minimum standards contained in these Regulations according to the following procedures:

1. Variances shall not be issued for areas within a floodway if any increase in flood elevations or velocities would result;

2. Variances shall only be issued upon:

    a. a showing of good and sufficient cause;

    b. a determination that refusal of a permit due to exceptional circumstances would cause a unique or undue hardship on the applicant or community involved;

    c. a determination that the granting of a variance will not result in increased flood heights, present additional threats to public safety, be an extraordinary public expense, create nuisances, cause fraud, victimize the public, or conflict with existing state and local laws;

    d. a determination that the proposed use would be adequately flood-proofed;

e. a determination that a reasonable alternate location outside the floodplain is not available;

f. a determination that the variance requested is the minimum necessary to afford relief, considering the flood hazard; and

g. approval of the Montana Department of Natural Resources and Conservation, upon request from the _________________________, prior to formally
(Permit Issuing Authority)
approving any permit application which is in variance to these Regulations.

3. Variances shall be issued in writing from the Permit Issuing Authority and shall notify the applicant that:

a. a specific variance is granted, and certain conditions may be attached;

b. the issuance of a variance to construct a structure below the 100-year floodplain elevation will result in increased premium rates; and

c. such construction below the 100-year flood elevation increases risks to life and property. The Floodplain Administrator shall maintain records of the variance notification and actions, including justification for their issuance, and forward copies of all variance actions to the Montana Department of Natural Resources and Conservation and the Federal Emergency Management Agency.

C. Appeal of any decision of the Permit Issuing Authority, its officers, or agencies may be taken by an aggrieved person or persons, jointly or separately, to a court of record.

4.05 Fees

A processing fee of __________ shall be submitted with each permit application.

4.06 Violation Notice

The Floodplain Administrator shall bring any violation of these Regulations to the attention of the local governing body; the __________________________ Attorney; and the
(City, Town, and County)
Montana Department of Natural Resources and Conservation.

4.07 Compliance

Any use, arrangement, or construction not in compliance as authorized by permit, shall be deemed a violation of these Regulations and punishable as provided in Section 4.08. An applicant is required to submit certification by a registered professional engineer, architect, or other qualified person designated by the Floodplain Administrator that finished fill and building floor elevations, flood proofing, or other flood protection measures were accomplished in compliance with these Regulations.

4.08 Penalties

Violation of the provisions of these Regulations or failure to comply with any of the requirements, including permit approval prior to development of floodprone lands and conditions and safeguards established in connection with variances, shall constitute a misdemeanor. Any person who violates these Regulations or fails to comply with any of its requirements shall, upon conviction, be fined not more than $100 or imprisoned in jail for not more than 10 days or both. Each day's continuance of a violation shall be deemed a separate and distinct offense.

CHAPTER V
SPECIFIC STANDARDS

5.01 Applications

The minimum floodplain development standards listed in this chapter apply to the floodway and floodway fringe portions of the 100-year floodplain as delineated on the Flood Boundary - Floodway Maps, and also correspond to the numbered A or AE zones depicted on the Flood Insurance Rate Maps.

5.02 Floodway

A. Uses Allowed Without Permits. The following open space uses shall be allowed without a permit within the floodway, provided that such uses conform to the provisions of Chapter VII of these Regulations, are not prohibited by any other ordinance, resolution, or statute and do not require fill, excavation, permanent storage of materials, or equipment or structures other than portable structures:

1. Agricultural uses;

2. Accessory uses such as loading and parking areas, or emergency landing strips associated with industrial and commercial facilities;

3. Private and public recreational uses such as golf courses, driving ranges, archery ranges, picnic grounds, boat-launching ramps, parks, wildlife management and natural areas, game farms, fish hatcheries, shooting preserves, target ranges, trap and skeet ranges, hunting and fishing areas, and hiking or horseback riding trails;

4. Forestry, including processing of forest products with portable equipment;

5. Residential uses such as lawns, gardens, parking areas, and play areas;

6. Irrigation and livestock supply wells, provided that they are located at least 500 feet from domestic water supply wells; and

7. Fences, except permanent fences crossing channels.

B. Uses Requiring Permits. The following artificial obstructions and non-conforming uses may be permitted in the floodway subject to the issuance of a permit by the Floodplain Administrator:

1. Excavation of material from pits and pools provided that:

    a. a buffer strip of undisturbed land is left between the edge of the channel and the edge of the excavation. This buffer strip must be of sufficient width to prevent flood flows from channeling into the excavation;

    b. the excavation meets all applicable laws and regulations of other local and state agencies; and

    c. excavated material is stockpiled outside the floodway.

2. Railroad, highway, and street stream crossings provided the crossings are designed to offer minimal obstruction to flood flow and do not increase elevation of the 100-year flood more than one-half foot.

3. Limited filling for highway, street, and railroad embankments not associated with stream crossings, provided that:

   a. reasonable alternate transportation routes outside the designated floodway are not available; and

   b. such floodway encroachment is located as far from the stream channel as possible.

4. Buried or suspended utility transmission lines, provided that:

   a. suspended utility transmission lines are designed so the lowest point of the suspended line is at least 6 feet higher than the elevation of the 100-year flood;

   b. towers and other appurtenant structures are designed and placed to withstand and minimally obstruct flood flows; and

   c. utility transmission lines carrying toxic or flammable materials are buried to a depth of at least twice the calculated maximum depth of scour for a 100-year flood. The maximum depth of scour may be determined from any of the accepted hydraulic engineering methods, but the final calculated figure shall be subject to approval by the Floodplain Administrator.

5. Storage of materials and equipment, provided that:

   a. the material or equipment is not subject to major damage by flooding and is properly anchored to prevent flotation or downstream movement; or

b. the material or equipment is readily movable within the limited time available after flood warning. Storage of flammable, toxic, or explosive materials shall not be permitted.

6. Domestic water supply wells, provided that:

   a. they are driven or drilled wells located on ground higher than the surrounding ground to assure positive drainage from the well;

   b. well casings are water tight to a distance of at least 25 feet below the ground surface;

   c. water supply and electrical lines have a watertight seal where the lines enter the casing;

   d. all pumps, electrical lines, and equipment are either submersible or adequately flood-proofed; and

   e. check valves are installed on main water lines at wells and at all building entry locations.

7. Buried and sealed vaults for sewage disposal in recreational areas, provided they meet applicable laws and standards administered by the Montana Department of Health and Environmental Sciences.

8. Public or private campgrounds, provided that:

   a. access roads require only limited fill and do not obstruct or divert flood waters; and

    b. manufactured homes, including travel trailers and park trailers, are not in place more than 180 consecutive days.

9. Structures accessory to the uses permitted in this section such as boat docks, marinas, sheds, picnic shelters, tables, and toilets provided that:

    a. the structures are not intended for human habitation;

    b. the structures will have a low flood damage potential;

    c. the structures will, insofar as possible, be located on ground higher than the surrounding ground and as far from the channel as possible;

    d. the flood-proofing standards of Chapter VII are met; and

    e. the structures will be constructed and placed so as to offer minimal obstruction to flood flows and are anchored to prevent flotation.

10. All other artificial obstructions, substantial improvements, or non-conforming uses not specifically listed or prohibited by these Regulations.

C. Permits for Flood Control Works. Flood control works shall be allowed within floodways subject to the issuance of a permit by the Floodplain Administrator with the following conditions:

1. Levees and floodwalls are permitted if:

    a. the proposed levee or floodwall is designed and constructed to safely convey a 100-year flood; and

    b. the cumulative effect of the levee or floodwall combined with allowable floodway fringe encroachments does not increase the unobstructed elevation of the 100-year flood. The Floodplain Administrator may establish either a lower or higher permissible increase in the elevation of the 100-year flood for individual levee projects. Any change must be in concurrence with the Montana Department of Natural Resources and Conservation and the Federal Emergency Management Agency based upon the following criteria:

        1) the estimated cumulative effect of any anticipated future reasonable permissible uses; and

        2) the type and amount of existing flood-prone development in the affected area.

    c. the proposed levee or floodwall, except those to protect agricultural land, are constructed at least 3 feet higher than the elevation of a 100-year flood.

2. Riprap, except that which is hand-placed, if:

    a. the riprap is designed to withstand a 100-year flood;

    b. the riprap does not increase the elevation of the 100-year flood; and

    c. the riprap will not increase erosion upstream, downstream, or adjacent to the riprap site.

3. Channelization projects if they do not significantly increase the magnitude, velocity, or elevation of the 100-year flood in the proximity of the project.

4. Dams, provided that:

    a. they are designed and constructed in accordance with approved safety standards; and

    b. they will not increase flood hazards downstream, either through operational procedures or improper hydrologic design.

D. Permits for Water Diversions. Permits for the establishment of a water diversion or change in place of diversion shall not be issued if, in the judgment of the Floodplain Administrator:

1. the proposed diversion will significantly increase the upstream elevation of the 100-year flood to the detriment of neighboring property;

2. the proposed diversion is not designed and constructed to minimize potential erosion from a 100-year flood; and

3. any permanent diversion structure crossing the full width of the stream channel is not designed and constructed to safely withstand up to a 100-year flood.

E. Prohibited Uses. The following artificial obstructions and non-conforming uses are prohibited within the floodway:

1. New construction, substantial improvements, and alterations of any residential, commercial, or industrial structure;

2. Encroachments--including fill, new construction, alterations, substantial improvements, and other development within the adopted regulatory floodway that would result in erosion of the embankment, obstruction of the natural flow of waters, or increase in flood levels within the community during the occurrence of the 100-year flood;

3. The construction or permanent storage of an object subject to flotation or movement during flood level periods;

4. New Construction, replacement, substantial improvements, and alterations of manufactured homes.

5. Solid waste disposal, sewage treatment, and sewage disposal systems, except as allowed or approved under the laws and standards administered by the Montana Department of Health and Environmental Sciences; and

6. Storage of highly toxic, flammable, or explosive materials.

5.03 Floodway Fringe

A. Uses Allowed Without Permits. All uses allowed in the floodway, according to the provisions of Section 5.02 A of these Regulations, shall also be allowed without a permit in the floodway fringe.

B. Uses Requiring Permits. All uses allowed in the floodway subject to the issuance of a permit, according to the provisions of Section 5.02 B and Section 5.02 C of these Regulations, shall also be allowed by permit within the floodway fringe. In addition, new construction, substantial improvements, and alterations to structures are allowed by permit. This includes but is not limited to residential, commercial, and industrial construction, and suitable fill to be allowed by permit from the Floodplain Administrator and subject to the following conditions:

1. Such structures or fill must not be prohibited by any other statute, regulation, ordinance, or resolution;

2. Such structures or fill must be compatible with local comprehensive plans;

3. The new construction, alterations, and substantial improvements of residential structures including manufactured homes must be constructed on suitable fill such that the lowest floor elevation (including basement) is two feet or more above the elevation of the 100-year flood. The suitable fill shall be at an elevation no lower than the elevation of the 100-year flood and shall extend for at least fifteen feet, at that elevation, beyond the structure(s) in all directions;

4. The new construction, alteration, and substantial improvement of commercial and industrial structures can be constructed on suitable fill as specified in Section 5.03-B.3 of these Regulations. If not constructed on fill, commercial and industrial structures must be adequately flood-proofed to an

elevation no lower than two feet above the elevation of the 100-year flood. Flood-proofing must be certified by a registered professional engineer or architect that the flood-proofing methods are adequate to withstand the flood depths, hydrodynamic and hydrostatic pressures, velocities, impact, buoyancy, and uplift forces associated with the 100-year flood;

a. if the structure is designed to allow internal flooding of the lowest floor, use of the lowest floor shall be limited to parking, loading areas, and storage of equipment or materials not appreciably affected by flood waters. The floors and walls shall be designed and constructed of materials resistant to flooding to an elevation no lower than two feet above the 100-year flood elevation. Walls shall be designed to equalize hydrostatic forces by allowing for entry and exit of floodwaters. Openings may be equipped with screens, louvres, valves, other coverings, or devices which permit the automatic entry and exit of floodwaters.

b. structures whose lowest floors are used for a purpose other than parking, loading, or storage of materials resistant to flooding shall be waterproofed to an elevation no lower than two feet above the 100-year flood elevation. Waterproofing shall include impermeable membranes or materials for floors and walls and watertight enclosures for all windows, doors, and other openings. These structures shall be designed to withstand the hydrostatic, hydrodynamic, and buoyancy effects of a 100-year flood.

c. flood-proofing shall also be accomplished in accordance with Chapter VII of these Regulations.

5. Manufactured homes must be elevated on suitable compacted fill so that the lowest floor of the manufactured home will be two feet above the 100-year flood elevation. This includes new construction, substantial improvement, alteration, or replacement of manufactured homes within an existing manufactured home park or subdivision and manufactured homes on individual sites. The manufactured home must be anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors;

6. Manufactured homes proposed for use as a commercial or industrial structure must be anchored and elevated, rather than flood-proofed;

7. Roads, streets, highways, and rail lines shall be designed to minimize increase in flood heights. Where failure or interruption of transportation facilities would result in danger to the public health or safety, the facility shall be located two feet above the elevation of the 100-year flood;

8. Agricultural structures that have a low damage potential, such as sheds, barns, shelters, and hay or grain storage structures must be adequately anchored to prevent flotation or collapse;

C. Prohibited Uses. The following artificial obstructions and non-conforming uses are prohibited within the floodway fringe:

1. Solid waste disposal, sewage treatment, and sewage disposal systems, except as allowed or approved under the laws and standards administered by the Montana Department of Health and Environmental Sciences; and

2. Storage of highly toxic, flammable, or explosive materials. Storage of petroleum products may be allowed by permit if buried in tightly sealed impermeable containers or if stored on compacted fill at least two feet above the elevation of the 100-year flood and anchored to prevent downstream movement.

5.04 Floodplain Areas with Flood Elevations and No Delineated Floodway

A. A development proposed for a 100-year floodplain, where water surface elevations are available but no floodway is delineated, may not significantly increase flood velocities or depths or generally alter patterns of flood flow. The provisions of Section 5.03, Floodway Fringe, shall apply to these areas. The Floodplain Administrator may require a permit applicant to furnish additional hydraulic data before acting on a permit application for such a floodplain. The data may include, but are not limited to, any of the following:

1. a hydraulic study documenting probable effect on upstream or downstream property owners caused by the proposed development; or

2. the calculated increase in the 100-year flood frequency water surface profile caused by the proposed development.

B. Permits for such proposed development may be modified or denied if the additional information shows that the proposed use would cause an additional flood hazard to adjacent property or significantly increase flood heights. A significant increase in flood heights is one-half foot unless existing or anticipated development in the area dictates a lesser amount of allowable increase.

5.05 Shallow Flooding (AO Zones)

A. Shallow flooding areas are delineated as AO Zone floodplains on the Flood Insurance Rate Maps. The provisions of Section 5.03, Floodway Fringe, of these Regulations shall apply to any AO Zone floodplains. The depth of the 100-year flood is indicated as the depth number on the Flood Insurance Rate Maps. The 100-year flood depth shall be referenced to the highest adjacent grade or stream flow line in determining fill or flood-proofing heights which are to be utilized in applying the provisions of Section 5.03-B.3 and Section 5.03-B.4 of these Regulations. In the absence of depth or elevation information a two-foot flood depth should be used.

1. Floodplain Boundary Interpretation. The Floodplain Administrator shall make interpretations where needed as to the exact location of an AO Zone floodplain boundary when there is a conflict between a mapped boundary and actual field conditions.

CHAPTER VI

GENERAL STANDARDS

6.01 Applications

The minimum floodplain development standards listed in this chapter apply to the 100-year floodplains delineated by approximate methods and identified as unnumbered A Zones on the Flood Insurance Rate Maps.

A. Uses Allowed Without Permits. All uses allowed in a floodway, according to the provisions of Section 5.02-A of these Regulations, shall also be allowed without a permit in the floodway fringe.

B. Uses Requiring Permits. All uses allowed in the floodway fringe subject to the issuance of a permit, according to the provisions of Section 5.03-B, shall require permits from the Floodplain Administrator for Zone A floodplains. Also, the provisions of Section 5.03-B apply to the Zone A floodplains with no floodway delineated or water surface profile computed. Since there are no 100-year frequency water surface profiles computed for Zone A floodplains, the following conditions also apply:

1. Elevation data on the 100-year flood shall be provided for subdivision proposals, manufactured home parks, and other proposed developments which contain at least 50 lots or 5 acres (whichever is less) and used in applying Sections 5.03-B.3 and 5.03-B.4 of these Regulations;

2. Obtain, review, and reasonably utilize any 100-year flood elevation and floodway data available from federal, state, or other sources, until such data have been provided by the Federal Emergency Management Agency to enforce Section 5.03-B.3 and 5.03-B.4 of these Regulations; and

3. Historical flood elevations may be used by the Floodplain Administrator in determining suitable fill or flood-proofing elevations to be utilized in applying Sections 5.03-B.3 and 5.03-B.4 of these Regulations;

4. If historical flood evidence is not available then the Floodplain Administrator shall determine, from a field review at the proposed development site, an appropriate fill or flood-proofing elevation to be utilized in applying Sections 5.03-B.3 and 5.03-B.4 of these Regulations; and

5. Proposed structures must be anchored to prevent flotation or collapse and must be located as far from stream channels as practicable.

C. Prohibited Uses. Those uses prohibited in the Floodway Fringe, in accordance with Section 5.03-C of these Regulations, shall also be prohibited within the Zone A floodplain boundaries.

D. Floodplain Boundary Interpretation. The Floodplain Administrator shall make interpretations where needed as to the exact location of the Zone A floodplain boundary when there is a conflict between a mapped boundary and actual field conditions.

CHAPTER VII

FLOOD-PROOFING REQUIREMENTS

7.01 Certification

If the following flood-proofing requirements are to be utilized for a proposed structure, as stipulated by the Floodplain Administrator in accordance with these Regulations, the methods used must be certified as adequate by a registered professional engineer or architect.

7.02 Conformance

Permitted flood-proof systems shall conform to the conditions listed below--and the flood-proofing standards listed in Section 5.03-B.4 of these Regulations for commercial and industrial structures.

A. Electrical Systems

1. All incoming power service equipment, including all metering equipment, control centers, transformers, distribution and lighting panels, and all other stationary equipment must be located at least two feet above the elevation of the 100-year flood;

2. Portable or movable electrical equipment may be placed below the elevation of the 100-year flood, if the equipment can be disconnected by a single submersible plug-and-socket assembly;

3. The main power service line shall have automatic or manually operated electrical disconnect equipment located at an accessible location outside the 100-year floodplain and above the elevation of the 100-year flood; and

4. All electrical wiring systems installed at or below the elevation of the 100-year flood shall be suitable for continous submergence and may not contain fibrous components.

B. Heating Systems

1. Float operated automatic control valves must be installed in gas furnace supply lines so that the fuel supply is automatically shut off when flood waters reach the floor level where the furnace is located;

2. Manually operated gate valves must be installed in gas supply lines. The gate valves must be operable from a location above the elevation of the 100-year flood.

3. Electric heating systems must be installed in accordance with the provisions of Section 7.02-A.

C. Plumbing Systems

1. Sewer lines, except those to be buried and sealed in vaults, must have check valves installed to prevent sewage backup into permitted structures;

2. All toilet stools, sinks, urinals, and drains must be located so the lowest point of possible water entry is at least two feet above the elevation of the 100-year flood.

Appendix A
Floodplain Development Permit

(revised 11/26/86)

FLOODPLAIN DEVELOPMENT PERMIT

A permit must be issued by the Floodplain Administrator before the development can begin.

THIS SECTION TO BE COMPLETED BY THE APPLICANT

Name of Applicant ______________________________ Date ____________

Address ____

______________________________ Phone ____________

Location of Proposed Development ______________________________

____

Description of Development (check box or boxes which best describe development)

___ Residential
___ Mobile Home
___ Commercial
___ Subdivision
___ Mobile Home Park
___ Watercourse Alteration
___ Bridge
___ Culvert
___ Fill
___ New Construction
___ Addition
___ Improvement
___ Other (explain) ______________________________

____
Signature of Applicant

ATTACH TO THE APPLICATION THE FOLLOWING INFORMATION

Plans in duplicate drawn to scale showing:

A) Dimensions of the development site
B) Elevations of the development site
C) Proposed structures: buildings, mobile homes, bridges, culverts, etc. (include existing structures where appropriate)
D) Placement, number, and type of anchors for mobile homes
E) Utility connection locations: sewer, water, gas, and electric
F) Bridge and culvert plans must include hydraulic computations by a registered engineer
G) Fill location & dimensions
H) Storage of materials
I) Drainage facilities
J) Water course alterations including plan drawings, cross sections, and hyraulic computations.

Be sure to include the following:

1) Mean Sea Level (MSL) elevation of the lowest floor (including basement) of proposed structure(s), or
2) MSL elevation to which structure(s) is to be floodproofed.
(Applicants may be required to furnish additional information.)

___ A permit fee of $ ______ must accompany this application. ___ No fee is required.

Send this application and all correspondence concerning this permit to:

Name & Title ______________________________

Address ______________________________

______________________________ Phone ____________

Permit Number ____________
Date Received ____________

ADMINISTRATIVE ACTION

TO BE COMPLETED BY THE FLOODPLAIN ADMINISTRATOR

The proposed development is in the ____ Floodway ____ Floodway Fringe ____ Floodplain: no Base Flood Elevations given

The Base Flood Elevation at the development site is ____________ feet

Source Documents ____

In A-Zone where no Base Flood Elevation data is available, what is the historical flood elevation or depth as determined by the Floodplain Administrator? ____________ feet (Data may be available from high water marks, residents, newspapers, or other sources).

Document sources used to make determination ______________________________

Elevation Requirements

MSL Elevation to which the first floor is to be elevated ____________ feet.

MSL Elevation to which the structure is to be floodproofed ____________ feet.

MSL Elevation to which the compacted fill is to be elevated ____________ feet.

In A-Zone if historical flood elevation or depth cannot be determined, what conditions are required?

____ Elevate 2 feet above adjacent grade (residential)

____ Floodproof 2 feet above adjacent grade (commercial)

____ Applicant must provide Base Flood Elevation data

____ Prohibit basement construction

____ Other (explain) ____

Action Taken

_____ The proposed development is not in conformance with applicable Floodplain Management Standards. Permit is denied. Explanation attached.

_____ The proposed development is in partial conformance with the applicable Floodplain Management Standards. A conditional approval is granted. Conditions attached.

_____ The plans and materials submitted in support of the proposed development are in compliance with applicable Floodplain Management Standards. Permit is approved.

_____ Applicant has been advised that the proposed development may require a "310" permit (Section 75-7-101 et.seq. MCA) from the Local Conservation District, or a "Stream Protection Act" (Section 87-5-501 et.seq. MCA) approval from the Department of Fish, Wildlife and Parks, and/or a "404" permit from the U.S. Army Corps of Engineers.

Building Elevation and Compliance Certification

Certificates from registered professional engineer or land surveyor verifying elevations are attached.

The certified as-built MSL elevation of the lowest floor of the structure is ____________ feet.

The certified as-built MSL floodproofed elevation of the structure is ____________ feet.

Certificate of Occupancy or Compliance Issued __________ ______________________________
Date Signature of Floodplain Administrator

Appendix B
Elevation Certificate

ELEVATION CERTIFICATE

OMB 3067-007
EXPIRES, JUNE 30 1990

FEDERAL EMERGENCY MANAGEMENT AGENCY NATIONAL FLOOD INSURANCE PROGRAM

This form is to be used for 1) Post-FIRM construction only when the base flood information is available for the building site, and 2) Pre-FIRM buildings rated using Post-FIRM rules. Instructions for completing this form can be found on the reverse side.

BUILDING OWNER'S NAME ______ POLICY NUMBER ______

STREET ADDRESS ______

Apt.-A/Unit-U Suite-S/Bldg.-B ______ NO. ______ ROUTE ______ BOX NUMBER ______

OTHER DESCRIPTION (Block and lot numbers., etc.) ______

CITY ______ STATE ______ ZIP CODE ______

This form is to be completed by a land surveyor, engineer, or architect who is authorized by state law to certify elevation information when the elevation information for zones A1-A30, AE, AH, A(with BFE), V1-V30, VE, and V(with BFE) is required. In the case of zone AO, the building official, the property owner, or the owner's representative should complete the information in Section I and may also complete the certification. Community officials who are authorized by local law or ordinance to provide floodplain management information may also complete this form.

SECTION I BUILDING ELEVATION INFORMATION

1. Using the Flood Insurance Manual or the NFIP Flood Insurance Application—Part 2 Worksheet, indicate the proper diagram number___
2. FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of___________feet NGVD. (or other datum–see #5)
3. FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level floor from the selected diagram is at an elevation of_______feet NGVD (or other datum–see #5).
4. FIRM Zone AO. The floor used as the reference level from the selected diagram is ☐☐ feet above highest natural grade next to the building (also enter in line 8). This value must be equal to or greater than the AO Zone flood depth number listed below. If no flood depth number is available, is the building's lowest floor (or reference level) elevated in accordance with the community's floodplain management ordinances? ☐ Yes ☐ No ☐ Unknown
5. Indicate the elevation datum system used in determining the above reference level elevations: ☐ NGVD ☐ Other (describe on back)
6. Indicate the elevation datum system used on the FIRM for base flood elevations: ☐ NGVD ☐ Other (describe on back)

   (ATTENTION: If the elevation datum used in measuring the elevations is different than that used on the FIRM, then the elevations provided must be converted to the datum system used on the FIRM.)

7. Is the reference level based on actual construction? ☐ Yes ☐ No*

   * A "No" answer is only valid if the building does not have the reference level floor in place. Fill in the elevation based on construction drawings and do not complete question #8. If "No" is checked, this certification will be valid only for buildings in the course of construction. After construction of the reference level floor is completed, a post-construction elevation certificate will be required for continued flood insurance coverage.

8. Provide the following measurements using the natural grade next to the building (round to the nearest foot).

   a. The reference level is:
   ☐☐ feet ☐ above ☐ below (check one) the highest grade.
   ☐☐ feet ☐ above ☐ below (check one) the lowest grade.

   b. The garage floor (if applicable) is:
   ☐☐ feet ☐ above ☐ below (check one) the highest grade.
   ☐☐ feet ☐ above ☐ below (check one) the lowest grade.

SECTION II FLOOD INSURANCE RATE MAP INFORMATION

Provide the following from the proper FIRM (see Instructions on back–Date of FIRM) and accompanying insurance application:

COMMUNITY NO.	PANEL NO	SUFFIX	DATE OF FIRM	FIRM ZONE	BASE FLOOD ELEV (In AO Zone, use depth)	COMMUNITY ESTIMATED BASE FLOOD ELEVATION ESTABLISHED FOR ZONE A OR ZONE V, IF AVAILABLE

Elevation reference mark used appears on FIRM ☐ Yes ☐ No (See reverse side for details)

SECTION III CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state law to certify elevation information when the elevation information for zones A1-A30, AE, AH, A(with BFE), V1-V30, VE, and V(with BFE) is required. In the case of zone AO, the building official, the property owner, or the owner's representative can sign the certification. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. I certify that the information on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

CERTIFIER'S NAME ______ LICENSE NUMBER (or Affix Seal) ______

TITLE ______ COMPANY NAME ______

ADDRESS ______ CITY ______ STATE ______ ZIP ______

SIGNATURE ______ DATE ______ PHONE ______

The insurance agent should attach the original copy of the completed form to the flood insurance policy application. The second copy should be supplied to the policyholder and the third copy retained by the agent. The fourth copy is for the local community permit office, if required.

THIS FORM MAY BE REPRODUCED.

FOR OPTIONAL COMMUNITY USE: Is the reference level also the lowest floor under the community's floodplain management ordinances?
☐ YES ☐ NO If NO the elevation of the lowest floor is_________feet NGVD

FEMA FORM 81-31 (10/87)

593-117 (6/87)

INSTRUCTIONS FOR COMPLETING THE ELEVATION CERTIFICATE

The Flood Insurance Manual and the Flood Insurance Application—Part 2 Worksheet contains a series of diagrams that are to be used to determine the reference level for the specific structure in question. The diagrams are available through local insurance agents or the National Flood Insurance Program.

"Natural grade" is defined as the "grade unaffected by construction techniques such as fill, landscaping, or berming."

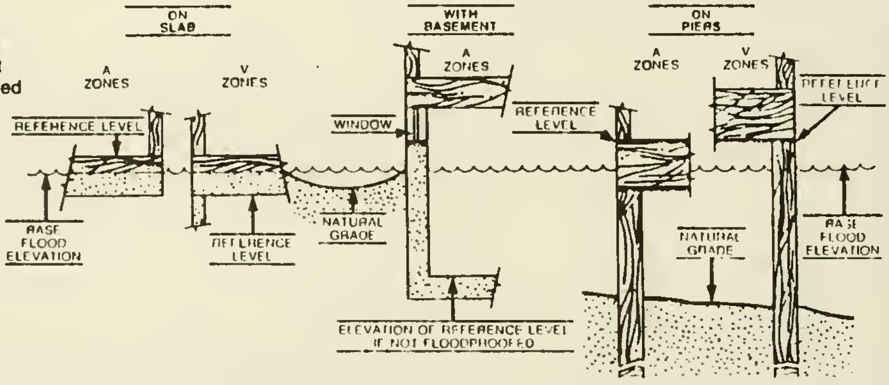
A reference level is shown in each of the worksheet diagrams of the various building types. For property locations in zones A1-A30, AE, AH, and A (with BFE), Line 2 of the Elevation Certificate indicates that the elevation should be measured from the top of the reference level floor. For property locations in zones V1-V30, VE, and V (with BFE), Line 3 of the Elevation Certificate indicates that the elevation should be measured from the bottom of the lowest horizontal structural member of the reference level floor.*

** The insured will determine the measurements using the "top of floor" from the Flood Insurance-Part 2 Worksheet diagrams.*

The diagram, right, demonstrates the differences between the point that elevations should be measured from in A zones and V zones.

Elevations for all A zones should be measured from the top of the reference level floor.

Elevations for all V zones should be measured from the bottom of the lowest horizontal structural member of the reference level floor.



The reference level elevation may be reported to the same level of precision used to report base flood elevation on the FIRM (e.g., if the base flood elevation is shown to the nearest half foot, the reference level may be reported to the nearest half foot).

Base flood elevations are shown on the community's Flood Insurance Rate Map (FIRM) for zones A1-A30, AH, AE, V1-V30, and VE. Base flood elevations may also be on file with the community for zones A and V for all subdivisions and other new developments greater than 50 lots or 5 acres, whichever is the lesser, if the start of construction was after December 31, 1974.

Base flood depth numbers are shown on the community's Flood Insurance Rate Map (FIRM) for zone AO. These depth numbers should be used to compare with the height of the reference level floor above highest natural grade in Line 8 of the Elevation Certificate.

Elevation reference marks other than those shown on the FIRM may be used for reference level elevation determinations. In areas experiencing ground subsidence, the most recently adjusted reference mark elevations available must be used for elevation determinations. If a reference mark not shown on the FIRM is used, identify the reference mark used in the comment section.

Date of FIRM used in Section II of the Elevation Certificate can be either the date of the FIRM in effect when the certification is being provided or the date of the FIRM that was in effect at the time the building was constructed.

COMMENTS:

NOTE TO INSURANCE AGENTS AND COMMUNITY OFFICIALS: In all A zones, the reference level is the top of the lowest floor and in V zones the reference level is the bottom of the slab/horizontal support. Agents should refer to the flood insurance manual for instruction on lowest floor definition.

593-117-2 (6/87)

Appendix C
Floodproofing Certificate

OMB 3067-0077
Expires June 30, 1990

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

FLOODPROOFING CERTIFICATE

This form is to be used for: 1) Post-FIRM construction only when the base flood information is available for the building site; and 2) Pre-FIRM buildings rated using Post-FIRM rules.

BUILDING OWNER'S NAME ______ POLICY NUMBER ______

STREET ADDRESS ______

Apt.-A/Unit-U Suite-S/Bldg.-B ______ NO ______ ROUTE ______ BOX NUMBER ______

OTHER DESCRIPTION (Block and lot numbers, etc.) ______

CITY ______ STATE ______ ZIP CODE ______

This form is to be completed by a land surveyor, engineer, or architect who is authorized to certify elevation information. Community officials who are authorized by local law or ordinance to provide floodplain management information may also complete this form.

SECTION I FLOOD INSURANCE RATE MAP INFORMATION

Provide the following from the proper FIRM and accompanying insurance application:

COMMUNITY NO	PANEL NO	SUFFIX	DATE OF FIRM	FIRM ZONE	BASE FLOOD ELEV (In AO Zone, use depth)	COMMUNITY ESTIMATED BASE FLOOD ELEVATION ESTABLISHED FOR ZONE A OR ZONE V, IF AVAILABLE

Elevation reference mark used appears on FIRM ☐ Yes ☐ No

SECTION II FLOODPROOFING CERTIFICATION
(Certification by a Registered Professional Engineer or Architect)

I certify to the best of my knowledge, information, and belief, that the building is designed so that the building is watertight, with walls substantially impermeable to the passage of water and structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy that would be caused by the flood depths, pressures velocities, impact and uplift forces associated with the base flood.

In the event of flooding, will this degree of floodproofing be achieved with human intervention? ☐ Yes ☐ No

(Human intervention means that water will enter the building when floods up to the base flood level occur unless measures are taken prior to the flood to prevent entry of water, e.g., bolting metal shields over doors and windows.)

Will the building be occupied as a residence? ☐ Yes ☐ No

If the answer to both questions is Yes, the floodproofing cannot be credited for rating purposes and the actual reference level floor must be completed and certified instead. Complete both the elevation and floodproofing certificates.

FIRM ZONES A, AE, A1-A30, VE, V1-V30, AO and AH: Certified Floodproofed Elevation is ______ feet, (NGVD).

SECTION III CERTIFICATION

I certify that the information on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

CERTIFIER'S NAME ______ LICENSE NUMBER (or Affix Seal) ______

TITLE ______ COMPANY NAME ______

ADDRESS ______ CITY ______ STATE ______ ZIP ______

SIGNATURE ______ DATE ______ PHONE ______

The insurance agent should attach the original copy of the completed form to the flood insurance policy application. The second copy should be supplied to the policyholder and the third copy retained by the agent.
THIS FORM MAY BE REPRODUCED.

FEMA Form 81-65, JUN 87 593-9049 (6/87)

Appendix D

Permit Guide for Water-related Projects

This guide covers state and federal laws, regulations, and permits needed for the following or similar activities:

- Bridges
- Culverts
- Fords
- Dredging
- Channel or Bank Changes
- Dams or Diversions
- Discharge into Streams or Lakes
- Water Use
- Pipelines
- Activities in Floodplain
- Sewage Systems
- Other Construction in Water Bodies
- Ponds

The purpose of this guide is to help people who are planning water-related projects to determine what agency contacts and permits are needed.

Use of the Guide. The guide lists laws, activities, and agency contacts. The agency contacts are number coded and the key to the agency numbers is shown on the bottom of the page. Appendix E lists the addresses and phone numbers of the agencies listed in the permit guide. Appendix F lists the various laws, gives a brief description, and summarizes requirements.

The laws listed are the most commonly encountered. Not all laws apply in all cases but because each project has its own impacts, it will be helpful to contact an agency to see which laws do apply. Each law is a separate legal entity and where more than one law applies, separate permits may be required. **Also, you may be required to work under other laws that are not listed,** but the agency contacts will help guide you to them. There are special areas that have limitations such as National Parks, Indian Reservations, Wildlife Refuges and Parks, Wilderness Areas, and other similar areas. In these cases, contact the managing agency.

PERMIT GUIDE

LAWS	ACTIVITY								
	Work In or On Stream Channels Or Banks			Discharging Water Into Live Stream			Water Use Or Diversion		
	Fed Land	State Land	Priv Land	Fed Land	State Land	Priv Land	Fed Land	State Land	Priv Land
Coal & Uranium Reclamation	* * G, I, K	G	G	—	—	—	—	—	—
Open Cut Mining	G, I, K	G	G	—	—	—	—	—	—
Metal Mine Reclamation	G, I, K	G	G	—	—	—	—	—	—
*General Mining Law	I, K	—	—	I, K	—	—	I, K	—	—
Water Pollution Control	F	F	F	F	F	F	F	F	F
Water Rights	—	—	—	—	—	—	E, O	E	E
Natural Streambed & Land Preservation-310	I, D K, A	D, A	D, A	—	—	—	I, D K, A	D, A	D, A
Stream Protection-124	I, D	D	—	—	—	—	M	M	M
Floodplain and Floodway Management	—	E, B	E, B	—	—	—	—	E, B	E, B
Lakeshore Protection	B	B	B	—	—	—	B	B	B
*Wetlands Floodplain E.O.	I, K, M	J, M	J, M	I, K	J	J	I, K, M	J, M	J, M
Local Zoning Laws	—	B, C	B, C	—	B, C	B, C	—B, C	B, C	
State & Federal Environmental Act	I, E K, P	E,J P	E, J P	F, I, E K, P	F, E J, P	F, E J, P	I, E K, P	E, J P	E, J P
State & Federal Archeologic & Historic	H, I, K L, M	G, D H, M	H, L	I, K H	G, D H	L, M	I, K H, M	G, D H, M	
*FERC Regulations	-	-	-	-	-	-	I, K, N	-	-
*River & Harbor Act	M	M	M	—	—	—	M	M	M

* Federal Laws
** agencies Involved

(Contact agency or organization owning or administering land if multiples are listed.)

Local
A. Conservation District
B. County Commissioners
C. City

State of Montana
D. Dept. Fish, Wildlife & Parks
E. Dept. Natural Resources & Conservation
F. Dept. Health & Environmental Sciences
G. Dept. State Lands
H. Montana State Historic Preservation Office

Federal
I. USDA, Forest Service
J. USDA, Soil Conservation Service
K. USDI, Bureau of Land Management
L. USDI, Fish & Wildlife Service
M. US Army Corps of Engineers
N. Fed. Energy Regulation Commission
O. Agency Administering Fed. Land
P. Environmental Protection Agency

Appendix E
Agencies Regulating Water-related Projects

State of Montana

Dept. of Fish, Wildlife and Parks
Resource Assessment Unit
1420 East Sixth Avenue
Helena, Montana 59620
444-2603

Dept. of Natural Resources and Conservation
1520 East Sixth Avenue
Helena, Montana 59620-2301
444-6699

Conservation Districts Division
1520 East Sixth Avenue
Helena, Montana 59620-2301
444-6667

Floodplain Management Section
Engineering Bureau
1520 East Sixth Avenue
Helena, Montana 59620-2301
444-6667

Dept. of Health and Environmental Sciences
Subdivision Section
Board of Health Building
Helena, Montana 59620
444-2406

Solid Waste Bureau
Cogswell Building
Helena, Montana 59620
444-2821

Water Quality Bureau
Cogswell Building
Helena, Montana 59620
444-2406

Dept. of State Lands
1625 Eleventh Avenue
Helena, Montana 59620
444-2074

Montana State Historic Preservation Office
Veteran's Memorial Building
225 North Roberts
Helena, Montana 59620
444-7715

Federal

USDA, Forest Service Region 1 Office
Federal Building
Missoula, Montana 59807
329-3511

USDA, Forest Service
Federal Building
Helena, Montana 59626
449-5201

USDA, Soil Conservation Service
Bozeman Office
Federal Building
Bozeman, Montana 59715
587-6811

USDI, Bureau of Land Management
PO Box 36800
Billings, Montana 59107
657-6561

USDI, Fish and Wildlife Service
3150 Canyon Ferry Road
East Helena, Montana 59635

US Army Corps of Engineers
Seattle Office
Box C-3755
Seattle, Washington 98124
(206) 764-3660

US Army Corps of Engineers
Omaha Office
6014 U.S. Post Office and Courthouse
215 North 17th Street
Omaha, Nebraska 68102
(402) 221-1221

Federal Energy Regulatory Commission
825 North Capital Street
Room 3130
Washington, D.C. 20426
(202) 357-8400

Environmental Protection Agency
Federal Building
Helena, Montana 59626
449-5432

Appendix F
Laws and Regulations Governing Water Projects

Archaeological and Historical. Several laws apply to state and federal lands. Laws require that a cultural resource survey be made prior to any ground-disturbing activity. Plan on a 30-day notice for the cultural survey. Work can only be done during snow-free periods. If a cultural resource is found, it must be evaluated for possible nomination to the National Register. If eligible, the site must be avoided or impacts mitigated. On federal land, contact local land managers. On state or private land, contact the State Historic Preservation Office.

Coal and Uranium Mine Reclamation. (Surface Mine Control Reclamation Act and Montana Strip and Underground Mine Reclamation Act). These laws set terms and conditions for coal and uranium mining and are administered by the State Board of Land Commissioners. The acts require a permit and reclamation plan.

E.O. 11988 Floodplain Management and E.O. 11990 Protection of Wetlands. These executive orders apply to federal agencies and provide guidance relative to their actions dealing with federally and privately owned floodplains and wetlands. The federal government is supposed to look for alternatives to developing floodplain or wetland areas. This also includes federally funded projects initiated by other parties. Should you have a project on such lands, you will be advised on requirements by the federal agency managing these lands. Contact the local agency office.

Federal Energy Regulation Commission (FERC). Formerly called Federal Power Commission (FPC), FERC issues licenses for primary transmission lines on federal lands and for hydroelectric projects, including minor projects such as water-driven power generators for home use. Allow 9 months for the licensing process.

Federal Water Pollution Control Act (Clean Water Act). Section 404 of this act states that a Department of the Army permit, issued by the Corps of Engineers, is required for the discharge of dredged or fill material into waters of the United States or on adjacent wetlands. Some minor activities are allowed by nationwide or general permits. Contact the appropriate district office prior to performing any work of this nature to determine permit requirements.

Floodplain and Floodway Management Act. The purpose of the law is to restrict or prohibit uses that are dangerous to the public health or safety of property in times of flood, or tha cause increased flood heights or velocities. Floodplains are being mapped; these maps are the technical basis for developing local floodplain regulations. A floodplain development permit is required. Enforcement is by a local governing body, usually the county commissioners or a zoning board. The Department of Natural Resources and Conservation provides technical help. Floodplain maps are available for inspection at the local clerk and recorder's office.

General Mining Law. This law applies to mining activities on federal land. If a miner plans to conduct any activity that might cause surface disturbance, he or she must file a Letter of Intent with the land management agency's local office. Depending on the nature of the activity and affected environment, a Plan of Operation may be required. Also, a reclamation bond may be required.

Lakeshore Protection. This is a permit program administered by county commissioners. Requirements are similar to those for the protection of floodplains. Contact your county planning office for information and permit applications.

Local Zoning Laws. Zoning of rural areas is increasing, particularly in western Montana and adjacent to larger cities. See your local zoning board.

Metal Mine Reclamation. Also called the Hard Rock Mining Act, this act requires the licensing of persons engaged in exploration and permits for development of mining properties. The act provides for reclamation and is administered by the State Board of Land Commissioners. The act covers minerals including any ore, rock, or substance other than oil, gas, bentonite, clay, coal, sand, gravel, phosphate rock, or uranium. An application, bond, and fee are required. A small miner exemption will be granted for quantities less than 36,500 tons per year and less than 5 acres unreclaimed disturbance per operation. There are several other conditions that should be closely checked.

Montana Water Quality Act. This state law and regulations adopted pursuant thereto provide for classification of surface waters and establish surface water quality standards and a permit program to control the discharge of pollutants into state waters. An application must be submitted at least 180 days prior to commencing work that would result in a discharge. The permit, which must be obtained before any discharge can occur, will contain water quality limitations and will require self-monitoring of effluent quality by the permittee. The Department of Health and Environmental Sciences administers this law.

Natural Streambed and Land Preservation Act. Commonly known as the 310 permit. This State law requires any **private** persons or organizations (non-governmental), before installation of any activity on **private** or **public** lands within the high water marks of a perennial flowing stream, to gain the approval of the board of supervisors of the local conservation district, or, where no conservation district exists, approval of the board of county commissioners. The Act requires submission of a "Notice of Proposed Project", detailed plans, and review by Department of Fish, Wildlife and Parks.

Open Cut Mining. This Montana state law covers reclamation and conservation of land subjected to open cut bentonite, clay, scoria, phosphate rock, sand, or gravel mining. The State Board of Land Commissioners is authorized to enter into contracts with operators. Any operator that removes 10,000 cubic yards or more of product or overburden in the aggregate is subject to this act. An application, bond, and fee are required.

River and Harbor Act. Section 10 of the River and Harbor Act of 1899 requires that a Department of the Army permit be issued by the Corps of Engineers for the performance or placement of any work in navigable waters of the United States. The Kootenai River is considered to be a navigable water of the United States from Jennings upstream to the Canadian border. Contact the Seattle District for permit requirements on this waterbody.

The Missouri River from Three Forks to the state line and the Yellowstone River downstream from Emigrant are also navigable waters. Contact the Omaha District of the Corps for permit requirements on these rivers.

State and Federal Environmental Protection Acts. Commonly called MEPA (State), and NEPA (Federal). Both acts require an Environmental Assessment (EA) for projects on federal land or where government money is spent on a project. Technical assistance (i.e., supplied by SCS to ranchers) is not considered government project money.

An EA must be prepared prior to issuing any permit. Normal time span is 15-60 days depending on complexities. Should an Environmental Impact Statement (EIS) be required, the process could take over a year to complete. Contact the state or federal agency responsible for management of land for details. Private land may be indirectly affected if impacts occur on these lands and a project is directed toward the impact from federal land. In these cases, the permit on federal land would not be issued.

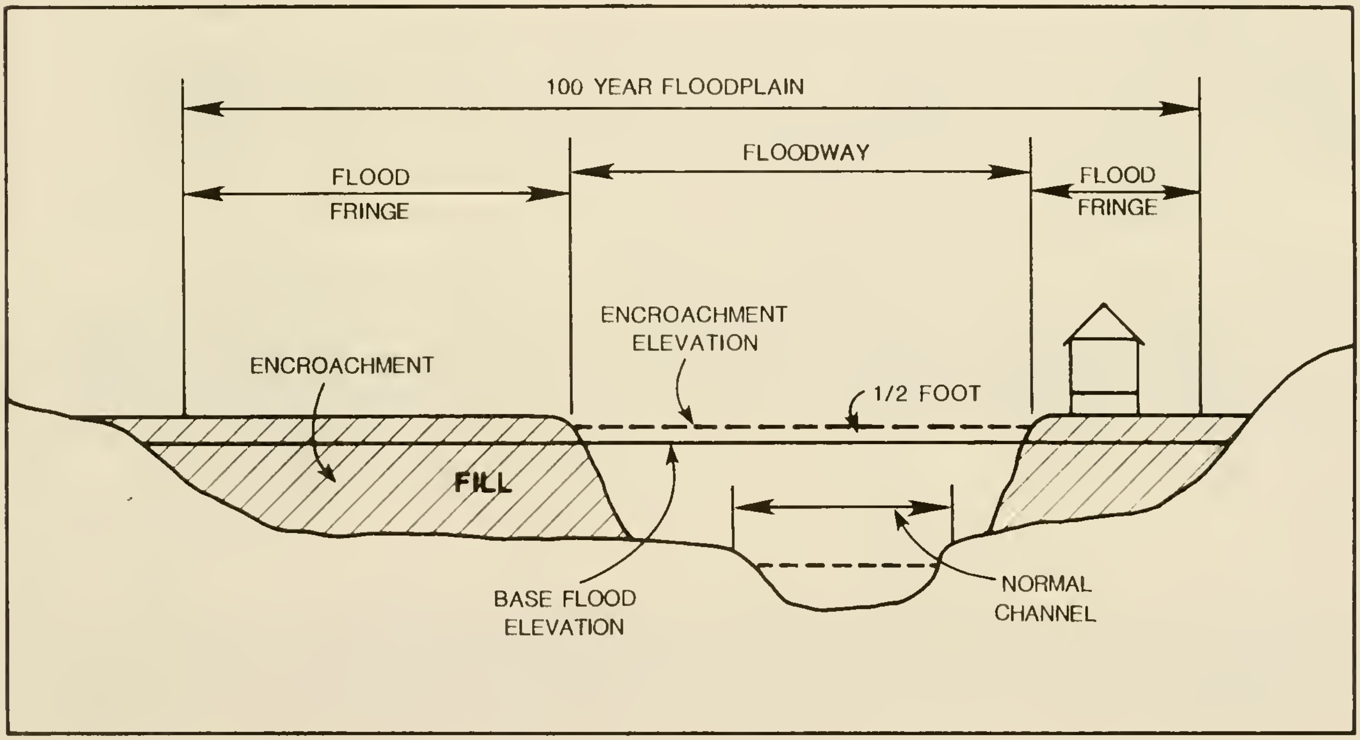
Stream Protection. Often referred to as the 124 permit. Similar requirements as the 310 permit but applies only to state, county, municipal, or subdivisions of state government or federal agencies, **not** individuals working on public lands unless the individual is acting as an agent of an agency or working under contract for an agency. Provides that the Department of Fish, Wildlife and Parks must be notified when any project will obstruct, damage, diminish, destroy, change, modify, or vary the natural existing shape and form of any stream or its banks or tributaries by any type or form of construction, whether performed by governmental or private parties. Requires an application and permit on state lands. National Forest lands are included by a Memorandum of Understanding which invites notification of projects by National Forests and participation by the Department of Fish, Wildlife and Parks. Projects by established irrigation districts are exempt.

Water Rights. Before a person can divert or impound water for a new use, or change an established use of water in any way, he or she must receive a permit from the Department of Natural Resources and Conservation. This includes water removed from a stream for the purposes of dredge mining. Most holders of existing water rights were required to refile those rights in compliance with the current Adjudication Statute (Senate Bill 76) before January 1, 1982. For both new and established rights, situations vary, so please contact your local Water Rights Bureau Field Office.

Appendix G
The Floodway

Communities participating in the Regular Phase of the National Flood Insurance Program (NFIP) usually have a detailed Flood Insurance Study completed for them by the Federal Emergency Management Agency (FEMA). This study describes flood hazards in the community and, if done in enough detail, designates a regulatory floodway.

A floodway is defined as the channel of a stream plus adjacent overbank areas, that must be kept free of encroachment in order that the 100-year flood be carried without substantial increases (1/2 foot or more) in flood heights. A floodway divides the floodplain into two parts; the floodway and the flood fringe. The floodway is that area of the floodplain which must be reserved to carry floodwaters so that flood damages are not increased in the remainder of the 100-year floodplain flood fringe.



Appendix G-1
Why a Floodway?

A community that is participating in the NFIP must make sure new development in the floodplain meets the standards of the program. Essentially these standards require that new structures be protected from the 100-year flood event. The level this flood reaches is called the Base Flood (or 100-year) Elevation (BFE). If a new structure is built with its lowest floor at or above the BFE, it should be safe from flood damages. But what happens if the BFE changes and is increased?

BFEs can be increased by obstructions in the floodplain. For example, if dikes are constructed on both sides of a river channel, they constrict the river's floodplain, causing floodwaters to rise and back up, increasing flood heights upstream. To avoid the possibility of raising the BFE, the NFIP asks a community to reserve a portion of the floodplain (the floodway) nearest the channel to pass floodwaters without causing a significant increase.

A significant increase has been determined by FEMA to mean a maximum of a 1/2-foot rise in the BFE. This means that if all the areas outside the floodway are obstructed or filled in, the BFE will not be raised by more than 1/2-foot. Any obstructions placed in the floodway then, would exceed the maximum 1/2-foot rise allowed.

Appendix G-2
Determining A Floodway

The floodway is determined by "squeezing in" a community's floodplain boundary (done by a computer hydraulic model) until the base flood is raised 1/2-foot. Sometimes the rise will be less than 1/2-foot at certain points in order to keep the increase from exceeding 1/2-foot at other points within the study area or to avoid excessive velocity. This "squeezing in" simulates building a wall from both sides of the floodplain toward the center of the channel.

The "wall" could be fill, structures, a levee, or any physical obstruction. When the imaginary obstruction has constricted flood flow enough to raise the Base Flood Elevation a maximum of 1/2-foot, the limits of the obstruction define the boundary of the floodway.

In the past, these boundaries were placed on a Flood Boundary Map (FBFWM). Since FBFWM's are no longer printed, they are now placed on the Flood Insurance Rate Map (FIRM) provided to the community along with the Flood Insurance Study.

Normally, floodway boundaries are determined by a computer model applying the equal degree of encroachment rule. The rule requires that the quantity of floodwaters conveyed on both sides of the watercourse be reduced by an equal percentage when developing the encroached floodway boundary.

This rule is based on the legal need to treat similarly situated property owners in a similiar manner. In practice, the rule is not always followed, due to many factors, including property ownership, topography, existing development patterns, and comprehensive land use plans. Any of these factors may justify modifications to the equal degree of encroachment rule. As such, FEMA generally works closely with a community in identifying boundaries to make sure the floodway that is defined both meets the standards of the NFIP and fits the particular needs of the community.

Advantages

Having an identified floodway on a FBFWM or a FIRM eases a community's task of administering its floodplain ordinance. When the floodway is identified, the floodplain administrator can determine if a proposed floodplain development is in the floodway. If it is in the floodway, it will cause a rise. Without the floodway determination, floodplain administrators must always question whether or not proposed developments will affect existing BFEs.

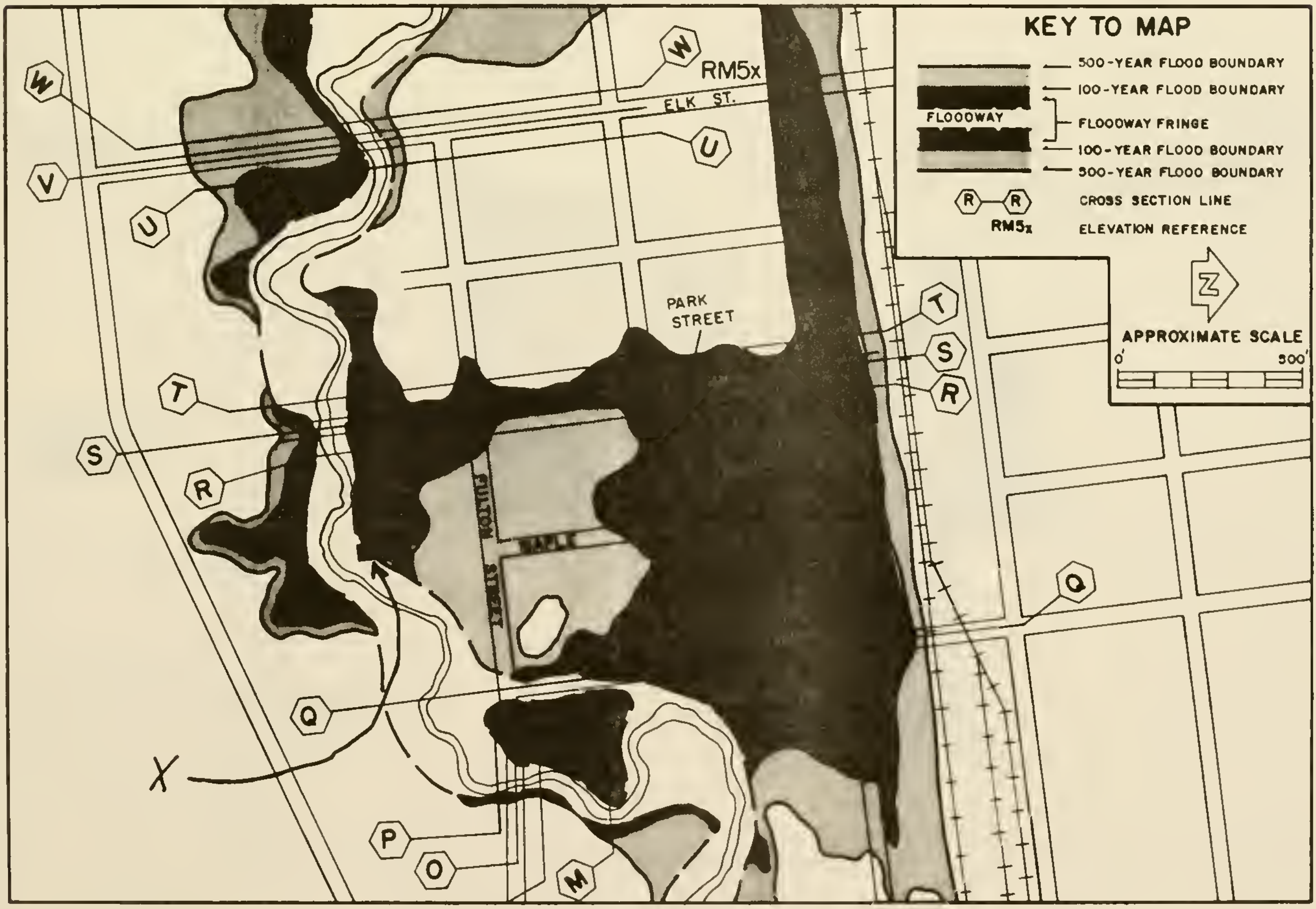
Appendix H
How to Read a Floodway Map (FBFWM)

A Flood Boundary Floodway Map (FBFWM), which accompanied all Flood Insurance Studies printed prior to 1986, is used for regulatory purposes by the community. It shows the floodway (the white areas between the shaded areas) and floodplain (the darker shaded areas are the limits of the 100-year event and the lighter shades show the limits of the 500-year event) boundaries.

To locate a site on the map, measure the distance on the ground between the site and an identifiable point (bridge, river channel, reference mark, etc.). Using the map scale, convert these figures and plot the site on the map. For example, point X is 400 feet east of the Park Street Bridge and 350 feet due south of the intersection of Maple and Fulton. It is located in the floodway.

Cutting across the floodplain are a series of lines, tagged with letters, called cross sections. Flood elevations are developed for each of the cross sections and are displayed on flood profiles.

Communities use the information from the FBFWM and the flood profiles to regulate development in the floodplain to meet the standards of the NFIP.



Appendix I

How To Read A Flood Insurance Rate Map (FIRM) With Floodway

FEMA began using a one map system for new flood insurance studies initiated after October 1, 1985. The single map replaces the old FIRM and floodway maps. All information will now be incorporated into one FIRM map.

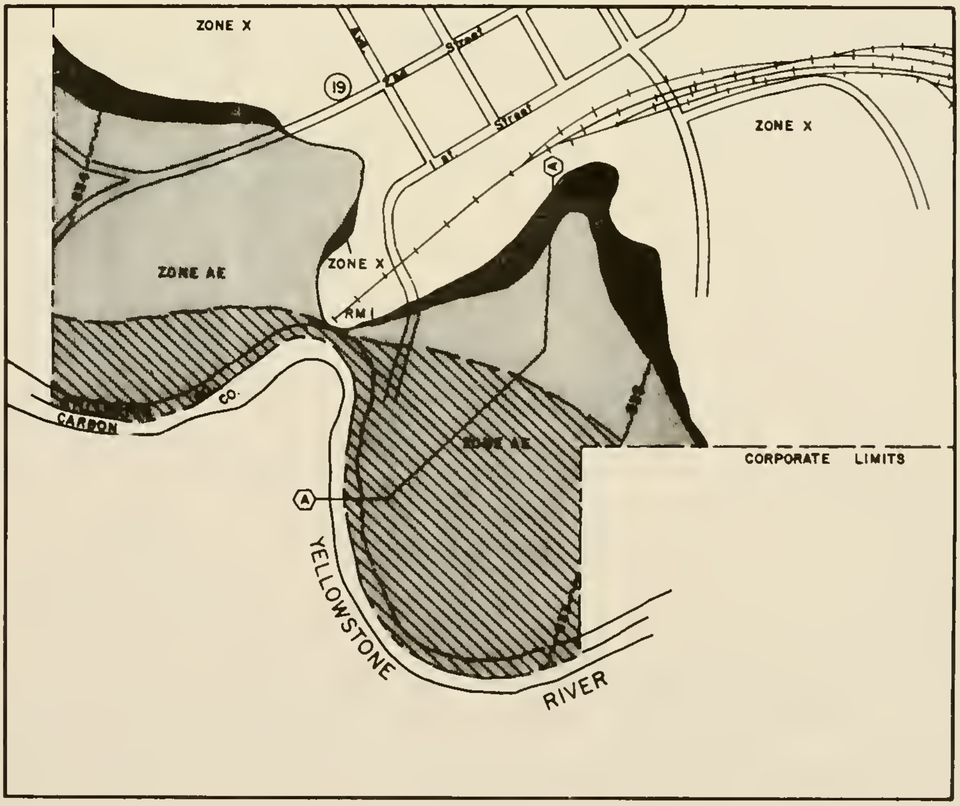
The flood hazard zones have been changed on the new FIRM. The new format includes the following changes.

- Zones A1 through A30, representing the 100-year floodplain, have been condensed to a single zone called AE.
- Zone B, representing the 500-year floodplain, has been changed to Zone X and is shaded on the map.
- Zone C, representing areas of minimal flooding, has been changed to Zone X and is unshaded on the map.
- The floodway is now shown as a cross-hatched area in Zone AE.
- The floodway fringe is shown as the AE zone that is not cross-hatched. The floodway fringe is not specifically mentioned in the map legend.

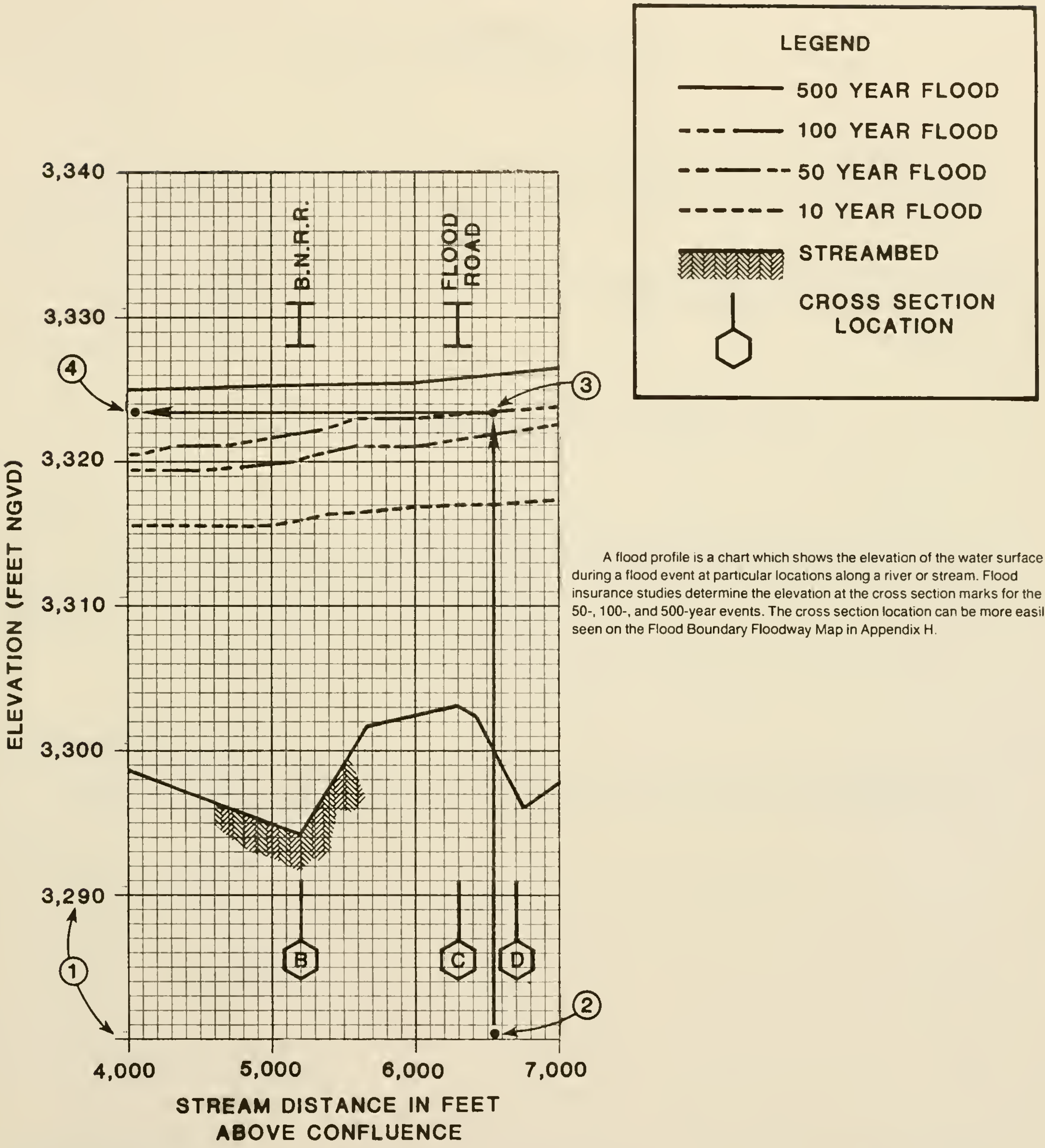
LEGEND

▒	SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD	
	ZONE A	No base flood elevations determined
	ZONE AE	Base flood elevations determined
	ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined
	ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain), average depths determined. For areas of alluvial fan flooding, velocities also determined
	ZONE A99	To be protected from 100-year flood by Federal flood protection system under construction, no base elevations determined
	ZONE V	Coastal flood with velocity hazard (wave action); no base flood elevations determined
	ZONE VE	Coastal flood with velocity hazard (wave action); base flood elevations determined
▨	FLOODWAY AREAS IN ZONE AE	
■	OTHER FLOOD AREAS	
	ZONE X	Areas of 500-year flood, areas of 1-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.
□	OTHER AREAS	
	ZONE X	Areas determined to be outside 500-year flood plain.
	ZONE D	Areas in which flood hazards are undetermined
————		Flood Boundary
— — — —		Floodway Boundary
— ——— —		Zone D Boundary
▒		Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones
~~ 513 ~~~		Base Flood Elevation Line, Elevation in Feet*
⬡D——D⬡		Cross Section Line
(EL 9871)		Base Flood Elevation in Feet Where Uniform Within Zone*
RM7 x		Elevation Reference Mark

*Referenced to the National Geodetic Vertical Datum of 1929



Appendix J
Reading a Flood Profile



A flood profile is a chart which shows the elevation of the water surface during a flood event at particular locations along a river or stream. Flood insurance studies determine the elevation at the cross section marks for the 10-, 50-, 100-, and 500-year events. The cross section location can be more easily seen on the Flood Boundary Floodway Map in Appendix H.

Reading a Flood Profile

1. First, check the scale. On the example above, each line on the horizontal axis represents 100 feet along the stream. The vertical axis lines represent one foot elevation increments above the main sea level.

2. Next, locate the point of concern on the horizontal axis. On the example, the point of concern is about 200 feet upstream from Flood Road.

3. From the point of concern follow the vertical line to the intersection of the 100-year Flood Event Line.

4. Finally, to determine the elevation, follow the horizontal line to the vertical axis. At the point of concern, the 100-year elevation is 3323.5 ft. MSL.

Appendix K
Flood Insurance Information

The National Flood Insurance Program (NFIP) was created to provide affordable flood insurance to property owners in flood-prone areas and to promote good floodplain management so future developments will not suffer damage from flooding. The NFIP is administrated by the Federal Emergency Management Agency (FEMA) and carried out by local community administrators.

Flood Insurance can be purchased by anyone in a community participating in the NFIP whether or not their property is in the floodplain. Flood insurance is voluntary unless required as a condition of a mortgage.

Carriers

Licensed property or casualty insurance agents can sell you a flood insurance policy.

Coverage

Any walled and roofed structure can be insured from direct loss caused by the general condition of flooding. Flooding is defined as a general and temporary condition of partial or complete inundation of normally dry land by the overflow of water, or, the unusual and rapid accumulation of runoff of surface waters from any source.

Property declared to be in violation of a state or local floodplain regulation can be denied coverage.

Basement Coverage

For flood insurance purposes, a basement is defined as having its floor subgraded on all sides. The NFIP limits flood insurance coverage in basements and in areas below the lowest elevated floor of an elevated building.

Items covered include:

- stairways and staircases attached to buildings, not separated by elevated walkways
- sump pumps
- well water tanks and pumps
- oil tanks (and oil in them)
- cisterns
- natural gas tanks
- electric junction circuit boxes
- furnaces and hot water heaters
- clothes washers and dryers
- food freezers
- air conditioners
- heat pumps
- pumps and/or tanks used in conjunction with solar energy systems.

Items not covered include:

- finished basement walls, floors, ceilings, and other improvements to a basement except those needed for fireproofing
- enclosures below lowest elevated floor of elevated buildings
- contents, machinery, and equipment in basements other than those specifically listed as being covered
- contents, etc., below lowest elevated floor of elevated buildings.

Cost

Depending on whether your community is in the Emergency or Regular Phase of the program, each policy premium differs, although there is a minimum premium of $50 which includes the policy fee of $45 that is charged for each policy written.

Amounts of insurance coverage available are summarized below for both the Emergency and Regular Phase of the program.

	Emergency Program		Regular Program		
	Maximum Structural Coverage	**Rate per $100**	**Additional Structural Coverage**	**Total Coverage Available**	**Rate per $100**
Single Family Residential	$ 35,000	$.45	$150,000	$185,000	varies with risk
Other Residential	$100,000	$.45	$150,000	$250,000	varies with risk
Non-Residential	$100,000	$.55	$150,000	$250,000	varies with risk
	Maximum Structural Coverage	**Rate per $100**	**Additional Structural Coverage**	**Total Coverage Available**	**Rate per $100**
Single Family Residential	$ 10,000	$.55	$ 50,000	$ 60,000	varies with risk
Other Residential	$ 10,000	$.55	$ 50,000	$ 60,000	varies with risk
Non-Residential	$100,000	$1.10	$100,000	$200,000	varies with risk

Policyholders may choose to retain the $500 standard deductible and current premium schedule or may select one of the optional larger deductibles with a reduced premium level as appears below:

1-4 Family Units
Buildings and Contents Policies

Building/Contents	Discount
$ 500/$ 500	Standard
$1,000/$1,000	10%
$2,000/$1,000	15%
$3,000/$1,000	20%
$4,000/$2,000	30%
$5,000/$2,000	35%

Note: In certain situations the selection of an optional deductible may not be acceptable under the terms of the mortgage. Approval from your lender may be necessary before committing yourself to a substantially increased deductible.

Waiting Period

Waiting periods before flood insurance goes into effect are different depending on each circumstance. Some examples are:

Initial Coverage (five-day waiting period) — The date a new policy goes into effect is on the fifth calendar day after the date of application and payment of premium. If premium payment does not accompany the application, the waiting period begins when the premium payment is made.

Transfer of Title (no waiting period) — When property changes ownership, new coverage on the property is effective at the time of title transfer, provided the flood insurance policy is applied for and premium payment is made at the time of or prior to the transfer of title.

Additional Coverage (five-day waiting period) — The date for additional coverage on an existing policy is on the fifth calendar day following the date of premium payment.

Flood insurance does not cover damage in progress.

Important Facts

Sewer backups and seepage of water are not covered unless the property has been damaged at the same time by a flood.

The insured is responsible to protect the insured property from an impending flood and to preserve and protect the property after incurring flood damage.

Losses caused by modifications to the insured property or to the premises on which it is located which materially increase the risk of flooding are not covered.

Willful misrepresentation or concealment of material facts (including facts relevant to the rating of this policy) by the issuing agent or the insured agent or the insured renders the policy void.

On policy renewals, recertification questionnaires may be sent to policy holders from FEMA, to recertify the rating information. Misrepresentation here may also render the policy void.

The NFIP is under no legal obligation to send any renewal notice or any other notice that the policy term is coming to an end.

If your property is in imminent danger of flooding, the expenses you incur for sandbags, pumps, or fill for temporary levees (up to $500) are a covered loss.

Appendix L

WHAT TO DO BEFORE The Flood

Whether caused by melting snow, rains or ice jams, floods damage homes and property and leave in their wake the arduous task of cleaning up.

Residents facing the possibility of flooding should take precautions to minimize disruption to their families and protect their property.

Even if flooding appears to be a remote possibility, consider actions that can be taken if floodwaters threaten your community. These tips can help prevent being victimized by a flood.

- ***Have Emergency Supplies on Hand***
  Keep a working portable radio and flashlight. Make provisions for alternative shelter should you be unable to reach your home. Keep on hand, or know where to obtain in times of emergency, materials such as sandbags, fill, plywood, plastic sheeting, and other materials that can aid in protecting property.
- ***Protect Valuables***
  Keep insurance policies, legal documents, and other valuables in a place safe from flooding.
- ***Buy Flood Insurance***
  Contact your property agent about purchasing flood insurance. Ordinary homeowner policies do not cover losses caused by overland flooding. In most instances, there is a five-day waiting period before flood insurance policies go into effect. Know what your flood insurance covers. Read your policy.
- ***Make an Itemized List of Your Property***
  By itemizing your personal property, you will have a record should flooding occur. If significant, uninsured flood losses can be tax deductible. Photographs of your home—inside and out—are helpful.
- ***Know Your Community's Flood Preparedness Plan***
  How does your community deal with flooding?

REMEMBER...

If you're flooded out, you don't have to be wiped out.

WHAT TO DO DURING The Flood

Residents of floodplains face the risk of devastating floods. But geologically, that's how floodplains are formed—from floods.

When flood warnings are issued and the water is rising, the safety of people and property are the most important considerations. If the worst is to happen, property can be protected against rising waters by taking these precautions.

- ***Move Contents to a Safe Place***
  All damageable items should be moved from the premises. This includes appliances, furniture, food, valuables, and clothing. Outdoor possessions such as patio furniture, garbage cans, tools, gas tanks, etc. should be anchored or relocated as they may be swept away.
  Note: If covered by a flood insurance policy, the relocation of possessions to a safe place and the expense of property protection is reimbursable up to the standard deductible of $500 per policy. A $50 deductible applies to these property protection measures.
- ***Shut Off All Utilities***
  Electricity, gas, and water should be shut off at the main power switches and valves. Exercise extreme caution if this area is already inundated by floodwater. With water wells, seal and close any openings to the water supply.
- ***Protect Windows***
  Board-up windows or use shutters to prevent glass from breaking and shattering.
- ***Secure Safe Drinking Water***
  Fill containers with clean water in case regular supplies are contaminated.
- ***Keep a battery-powered radio tuned to a local station, and follow emergency instructions that are broadcast.***

If evacuation becomes necessary, remember...FLOODS ARE DECEPTIVE. If possible, avoid flooded areas and avoid walking through floodwaters that are more than knee deep. Have preparations for evacuation planned ahead of time. Also...

- ***Move Quickly and Calmly***
  Don't wait until the last minute to leave. Have a flashlight and portable radio.
- ***Take Personal Necessities***
  Have the personal essentials needed such as medication and extra clothing.
- ***Evacuating By Car***
  When evacuating by car, stock the car with nonperishable foods, water, blankets, a first aid kit, a flashlight, and dry clothing. Keep the gas tank filled since gasoline may not be readily available in the area.
- ***Avoid Driving Over or in Flooded Areas***
  Parts of the road may be washed out. If the vehicle stalls in a flooded area, leave the vehicle and proceed to higher ground. Nationwide, many deaths have resulted from attempts to move through floods in vehicles.

If caught in the house by rising waters, move to the second floor and, if necessary, to the roof. Always keep a flashlight and a portable radio handy. WAIT...don't attempt to swim to safety. Evacuation teams will be active during this time.

Whether there are several days or only a few hours before a flood strikes, be prepared to contend with what flooding may bring.

WHAT TO DO AFTER The Flood

Floodplain residents must not only be prepared to deal with the flood, but also the aftermath of flooding. Be cautious when reentering the structure and follow these reminders.

- ***Before Entering a Building***
  - *Check the premises for obvious structural damage to make sure the building is not in danger of collapsing. Shut off all outside gas lines and air the house to remove possible gas fumes.*
- ***Upon Entering the Building***
  - *Do not use open flame as a source of light since gas may still be trapped inside; use a flashlight.*
  - *Watch for electrical shorts or live wires. Do not turn on any lights. Turn off the main power source and have an electrician check the electrical system.*
- ***If You Have Flood Insurance***
  - *If your home, apartment, or business has suffered flood damage, call the agent who issued your flood insurance policy. The agent will submit a loss form and an adjuster will be sent to inspect your property as soon as possible.*
  - *Perishable items which are unsanitary should be listed and photographed before discarding. Throw out fresh food and opened medicines that may have come in contact with floodwaters.*
  - *Furniture and other hard goods should be rinsed off and kept for the insurance adjuster's inspection.*
  - *Take photographs of the damage done to your building and contents.*
- ***Proceed With Immediate Cleanup Measures***
  - *Cover broken windows and holes in the walls to prevent further damage.*
  - *Take all wooden furniture outdoors, but keep it out of direct sunlight to prevent warping. A garage or carport may provide a place for drying.*
  - *Shovel out mud while it is still moist to give walls and floors a chance to dry. Special attention at this early stage should be given to cleaning out heating and plumbing systems.*
  - *Flooded basements should be drained and cleaned as soon as possible. Remember, however, that structural damage can occur by pumping out the water too quickly. After the surrounding floodwaters have subsided, begin draining the basement in stages, about one-third of the water volume each day.*
- ***Remember***
  - *Water for drinking and food preparation should be disinfected before using by boiling vigorously for ten minutes or by mixing 1/2 teaspoon of liquid commercial laundry bleach with 2½ gallons of water and letting the water stand for five minutes. Remove the flat taste by pouring the water from one container to another or adding a pinch of salt to the water.*
  - *A good deodorizer when cleaning major kitchen appliances is to add one teaspoon of baking soda to a quart of water.*
  - *Mildew can be removed from dry wood with a solution of 4 to 6 tablespoons tri-solium phosphate, 1 cup liquid chlorine bleach and 1 gallon water.*
  - *Clean metal at once; a light coat of kerosene wiped on iron will prevent it from rusting.*
  - *Aluminum will brighten by scrubbing with a solution of vinegar, cream of tartar, and hot water.*
  - *Scour all utensils, and, if necessary, use fine steel wool on unpolished surfaces.*
  - *Once plastered walls have dried, brush off loose dirt. Wash with a mild soap solution and rinse with clean water; always start at the bottom and work up. Ceilings are done last.*
  - *Separate all laundry items to avoid running colors. Clothing or household fabrics should be allowed to dry slowly, away from direct heat, before brushing off loose dirt. Rinse the items in lukewarm water to remove lodged soil. Then wash in lukewarm water with a mild detergent; rinse and dry in sunlight.*